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ABSTRACT

The role of women's college peer groups in aiding women to continue along or in encouraging them to drop out of certain career paths was investigated. During an ethnographic phase, freshmen were interviewed; during the survey phase a survey instrument was administered to sophomores. Respondents were from predominately black Bradford University (BU) and predominantly white North Carolina University (NCU). Peer relationships were important primarily as opportunities to enact valued role-identities. Noncareer peer relationships competed with career concerns for time and attention. Few black women changed plans for a major, while whites viewed changing majors as acceptable. Changes in major were more likely to result either in women staying in or moving toward nonmath/science majors. Ambivalence of BU women in career choice focused on questioning the worth of the credential relative to its costs. Nonacademic peer-related identities and rewards competed with career goals. NCU women were uncertain about their choices of majors. Peers' approval of NCU women's goals translated into greater commitment to pursue training in their majors. Recommendations to increase women's participation in math or science careers were identified. (The survey instrument and code book and summarized career identity histories are appended.) (YLB)

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WOMEN'S PEER GROUPS AND CHOICE OF CAREER

Final Report

NIE-G-79-0108

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*Holland's pre-1981 work appears under the name, Dorothy C. Clement.

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CHAPTER I: THE RESEARCH PROBLEM

THE PROBLEM

The recruitment and retention of American women in math and science careers is low. Common explanations for low representation of women in these careers include: 1) gender-specific psychological traits and cognitive abilities which attract women to and increase the likelihood that women will excel in certain career tracks, but not others; 2) structural barriers which impede and deflect females from math/science careers, and 3) culturally determined gender roles that affect which careers are considered to be appropriate and meaningful for women.

These explanations are often tested by analyses which begin and end with the demonstration of the covariance of psychological, sociological, and cultural variables with the career choices and achievement of women versus men. Our research takes another tack, namely it is directed to the processes by which career paths are formed. Even supposing that there are gender-linked psychological proclivities, that there are structural barriers impeding women in certain fields, and that cultural values render certain careers meaningless or unthinkable for women, we must ask when, how, and with what intensity these variables impinge upon women's career paths. Otherwise, it is impossible to say how surmountable these conditions are in terms of changing the pattern of gender representation in math and science careers.

This project has focused on a narrow segment of women's career paths: namely their freshman and sophomore years in college. Further, it was designed to investigate the role that college peer groups play in the formation of women's career paths.

Metaphorically speaking, a career path extends in both time and space.

The traveler, who at the point we encounter her in this study, is a college student, has spent time traversing a terrain that may or may not have brought her closer to future directions she might intend. At any one point in time, the traveler is located at a certain place. She brings with her a past, a projected itinerary, and perhaps a projected destination. She endures the conditions of the road and may change plans and goals in response to incidents along the way. (See also Plath 1980 who expresses a similar idea in his use of the concept of "cultural pathways.")

Cole (1981) refers to those women who persist in science careers and achieve university positions in science fields as "survivors." These survivors have withstood the rigors of achieving such a position; the non-survivors have dropped out or been selected out. The same may be said about the math/science majors in the two Southern universities where we conducted our research. Women tend to drop out of math/science majors* and go into non-math/science fields, not the reverse (see Chapter III).

From some perspectives, an American's occupational career path is an isolated journey, a result of the opportunities provided by the society and the choices made by the individual. The individual travels alone as the unit that is hired, credentialed, trained, rewarded, and fired. This picture of the solitary person, however, omits consideration of the way in which one's close associates recognize and validate a person's career path. Along these lines, David Plath has written:

> If 'associates' are persons you happen to encounter somewhere, sometime, 'consociates' are people you relate with across time and in some degree of intimacy. They are friends, lovers,

*In the body of this report, we further distinguish "pure" math or science majors from "applied" or "related" math/science majors, e.g. Business, Computer Science, Engineering, Nursing, Pharmacy, Pre-dentistry, Pre-medicine, Pre-veterinary, and Occupational, Physical or Speech Therapy.

> kinsmen, colleagues, classmates. Figuratively speaking, they are empaneled as a special jury to examine and confirm the course of your being and becoming. Your biography would make little sense if it does not mention them (1980:87).

In this study, we have investigated the effects of one's college peer group on one's career path. In particular, we have focused on the role of the peer group in aiding women to continue along or in encouraging them to drop out of certain career paths.

The next chapter describes women's peer groups--their composition, their demands, and their place in women's college lives. In the third chapter, we present findings on college freshmen and sophomore women's decision making regarding their career paths and the relationship of peer groups to those decisions.

OVERVIEW OF THE METHODS USED IN THE STUDY

We have included methodological detail in the appendices and at the point where the data in question are introduced. Broadly speaking, the study included an ethnographic phase followed by a survey phase. During the ethnographic phase, we followed 23 freshmen women through their first three semesters of college. Initial interviews with a larger group of women at the two study universities provided information about their social networks, academic plans, and extra-curricular interests. From this group, we chose an ethnographic sample of 12 women from Bradford University (BU)*, a predominantly black university, and a sample of 11 white women from nearby North Carolina University (NCU)*, a predominantly white university. The samples included women with a broad range of majors, interests, and size

*These names are pseudonyms. Respondent's names have also been changed.

of networks. Aside from trying to represent different types of women students, we "oversampled" women with math/science majors. Table 1-1 presents some demographic characteristics as well as the entering and present majors of the ethnographic sample.

Besides interviews regarding networks, activities, relationships, and majors, and in addition to a "life history" done at the end of the study, the women in the ethnographic sample were interviewed nine times over the course of the three semesters. These interviews, which we refer to as "talking diary interviews," were open-ended, taped interviews in which the informant was asked what had been going on in her life at college. The researcher* who conducted the interview with a particular informant also arranged to participate in a similar number of activities (e.g. going out to eat, going apartment hunting) involving the informant and some of her peers. Notes made after the activity and the taped interviews constitute the bulk of the ethnographic data. A small set of data consisted of some 40 open-ended taped interviews concerning peer relationships and activities.

Preliminary analysis of the ethnographic data provided hypotheses which informed the development of the survey instrument presented in Appendix I-1. The survey was administered to respondents randomly selected from the list of sophomore women compiled by officials at both universities. Three hundred and thirty sophomore women were invited by mail** to participate in the survey at each university. They were asked to come to a central place where they were given a copy of the interview and assisted with any questions.

---

*Black women conducted the research with black informants, while white women conducted the research with white informants.

**This method caused an undersampling of those who changed their address after the semester began. A fairly large number of the invitations sent out at each university were returned to us by the post office.

TABLE 1-1: DEMOGRAPHIC CHARACTERISTICS, ENTERING AND PRESENT MAJORS FOR BU AND NCU ETHNOGRAPHIC SAMPLE

BU Informant #	Age	State of Residence	College Living Arrangements	Entering Major	Major as of Mid-Sophomore Year
01	18	NC	Dorm	Marketing	Same
02	18	NC	Dorm	Broadcasting (English Education)	Same
03	18	NC	Dorm	Accounting	Date Processing
06	17	NC	Dorm/Home	Physical Therapy (Biology)	(left school)*
08	18	NC	Dorm	Marketing	Same
14	17	NC	Dorm	Accounting	Same
16	18	NC	Dorm/Home	Criminal Justice	(left school)
17	18	VA	Dorm	Physical Education	Same
18	18	NC	Dorm	Criminal Justice	Same
19	17	NC	Dorm	Nursing (Biology)	Same
22	18	FL	Dorm	Psychology	Same
23	19	NC	Dorm	Data Processing	Same
NCU Informant #					
04	18	NC	Dorm/Apartment	Physical Therapy (Biology)	Nursing (Biology)
05	18	NC	Dorm	Journalism	Marine Science
07	18	NC	Dorm	Biology	International Relations
09	18	VA	Dorm/Apartment	Physics	Same
10	18	NC	Dorm	Music	Speech Pathol (Education)
11	18	FL	Dorm	Psychology	Same
12	17	NC	Dorm	Biology	Same
13	18	GA	Dorm	Botany	Botany & Germa
15	18	LA	Dorm	Biology	Recreation The (Education)
20	18	PA	Dorm/Apartment	Spanish	Same
21	18	NC	Dorm	Actuary (math)	Same

*Although this woman left school for the first semester of her sophomore year, researchers maintained contact with her. Thus, we know that she maintained the same major and returned to school eventually.

They were given $5.00 for assisting with the survey. This process yielded 179 completed surveys at BU and 203 completed surveys at NCU.* Twenty of the 203 respondents who were selected and who completed the survey at NCU were black. They have been excluded from the anslysis since black students constitute a minority group at NCU. Thus, the NCU sample analyzed here is composed of 183 respondents.

The ethnographic and survey data are presented in the following chapters. Our conclusions are equally informed by both.

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*This method caused an undersampling of those who changed their address after the semester began. A fairly large number of the invitations sent out at each university were returned to us by the post office.

CHAPTER II: COLLEGE WOMEN'S PEER GROUPS

PEER GROUPS AND PEER RELATIONSHIPS

College life is a rather unusual phase in the lives of Americans because of the extreme age homogeneity of most of its participants. Unlike high school, college life goes on in a world that is age segregated all the time: during the day and at night; for eating, sleeping, and relaxing as well as for studying and social life. In short, peers dominate most of the public and private activities which take place in the college environment. Family and kin are usually back at home. Relations with professors and staff are circumscribed, and most students either do not have jobs or they have only part-time jobs. Not surprisingly in this environment, peer groups are extremely important.

Because peer groups are so pervasive in the college environment, the meaning of "peer group" must be defined quite broadly. For the purposes of this research, "peer group" is defined as the age mates incorporated into one's personal network. "Peer relationships," or the dyadic relationships between ego and each person in her peer group, are generally based on friendship, romance, or shared membership in a class, club, or common residence hall. Links through peers (e.g., friend-of-a-friend) are an additional basis for drawing another person into one's group.

Peer relationships are further defined by the recurrent activities in which a subset of network members engage and by the norms governing these activities.

For all of the women in the ethnographic sample, peer activities ranged across a continuum from informally organized activities, such as shopping sprees or trips to a local restaurant, to formally structured activities, such as those of sororities or campus clubs. For most of the

women in the ethnographic sample, peer networks coalesced into small groups of two or more individuals who regularly participated together in these various activities.

At the informal end of the activity continuum, the women in our ethnographic sample spent a great deal of time going out to eat, going to movies, going shopping at local malls and supermarkets, and perhaps, most frequently and most importantly, "talking" and "partying" with each other. In this context, "talking" refers to sitting around (in one's dorm or apartment, at a restaurant or a bar) and conversing with friends. For most of the women in our sample, these conversations are usually with other women. The following is an excerpt from one of the observation records.

> I [the researcher] met Priscilla in her room at 6:30 p.m. She told me that she was going down the hall to a room where Wilma, Jan, and Marjorie were talking. When we arrived, the other women were talking about a party they had been to recently. Priscilla started laughing and said that Wilma had gone to sleep at the party. Wilma laughed at herself saying that she had really wanted to go to the party and had not realized how tired she was. Priscilla started laughing again, reminding Wilma of another party where she had fallen asleep. Jan and Marjorie laughed and said they remembered that and how Marjorie had tried waking Wilma up and Wilma told them to leave her alone just for an hour. Everyone laughed and Wilma laughed most at herself.
>
> Then Wilma started reminding the other women about the men who were at the party. Priscilla said how sorry they were and she laughed and pointed at Marjorie and said, 'Remember how that man was falling all over you?' Marjorie said that she didn't remember that, but the rest of the group said that they did.

These talks also involve more serious matters, as indicated in the following example.

> There were about ten women sitting around on the beds and floor. The women were talking about tampons when we entered. Several were saying that the publicity [about toxic shock syndrome] had stopped them from using tampons. Some of the others said that they were still using them but were more careful now.

Talks may involve schoolwork as well, as another woman reported.

. . . Somebody will come in every night . . . just to talk, about anything [like] 'I don't know what to do, I've got an English paper coming up and I don't know what to write it on.'

"Partying" is another informal activity which occurs frequently.

> When I [the researcher] asked what we would be doing tonight, Sue said that she was partying with Carol and some of her other friends. Sue explained that we would go over to Carol's dorm room and get her, then go over to Peter and Dan's room and then one of them would drive over to Greg's, where they were all going to watch a movie ....Sue jokingly said she hoped she didn't end up drinking too much beer tonight.

These small, informal groups, which spend considerable time together talking and partying, are also called upon when members want or need something. For example, one of Sue's partying friends asked Sue to help paint a room. Another informal friendship group was marshalled to help find an apartment for one of its members. A third accompanied a member to the hospital after a sports injury.

These friendship groups also provide links to more formally organized activities, such as when Linda asked her friends to attend an organizational meeting of the Kennedy for President Campaign or when Kathy's friends encouraged her to try out for the soccer team.

On the other hand, special talents, such as in sports or the arts, or special interests, such as in politics or religion, can also serve as the impetus for individuals to join in more structured peer activities. The associations which develop in these activities often lead to involvement in more informal activities outside the structured context. One woman, for example, described how her roommate had been spending all her free time with other swimmers since joining the swim team; another explained

her desire to get to know better a woman whom she had recently met at church: she intended to have breakfast with this woman the next Sunday.

To the extent that these informal group activities are frequent, the groups come to be more than the aggregate of the dyadic relationships of the members. At least in the minds of the members, the group becomes an entity with its own patterns of actions, its own norms, its own identify. This objectification of the group is revealed, for example, in the following transcript from one of the interviews.

> Interviewer: You were talking about the insults that sometimes you trade at the dorm.
>
> Respondent: Yeah, we were just saying how it breaks the ice, you know, just to be kidding around with each other. The example I was telling you about...this girl; she was real quiet, and she never said anything to anybody. She got sick, and she was gone for several days to the hospital. So when she came back, we saw her in the hall one day, and one of us said something to her like,....'you had to lay out of school a little while and do something.' [Later, the respondent says, 'Uh-huh, where have you been? and I know what is was.' We told her she'd been out, I think, slutting around or something, and she just sort of looked at us funny, like she couldn't believe we were saying it to her, but then she laughed.] And ever since then, she's been coming over to the room, cutting up, and getting in there. She's been calling us different names, too, you know. And, it just broke the ice like that. And so, she's been getting into a lot of things the hall's been doing lately, too, because of it. And I said that, we usually don't talk like that in front of people we don't know, like walking down _____St., we won't holler at each other, calling different names, because people might think that we really don't like each other, or, you know, to give a bad impression, you know, they'd think we're fighting or something, just amongst ourselves, you know.

Another example involves the patterns which characterize interactions among friends in the dorm. Here, Aggie is describing how her suitemates gravitate to her room to talk. It is a Friday afternoon.

> Tonight, it [the topic of conversation] will be clothes... they always come to me for clothes and jewelry... and it's going to be wild tonight, I can tell. And I won't have decided what I'm gonna wear, and I'll say, 'Yeah, you can borrow this,' and then I'll end up with nothing to wear.... I love little accessories....I'm big on accessories..., and I have lots of jewelry, you know...and they [the accessories] have to be just right: just the right color, just the right place. So, they [the suitemates] know to come to Aggie for accessories.

Such patterns of behavior are not always viewed positively, as the following examples reveal. When talking about the group of women who live on her floor, Gina recounted the following:

> ...like when you let somebody wear something. You let 'em wear it [once] and then they come get it [again]-- they don't even ask you. You gone to class or somewhere, and they go in there and get it.... Just like...I was cleaning up my room, and I was putting my shoes on. I have narrow feet, and if somebody stretches them [the shoes], that's just it for the shoe. And they were trying my shoes on, and I was trying to put them up....Just like hair spray. A can of hair spray will last me the longest ...and the last time I had some hair spray, it lasted for [only] about two weeks 'cause everybody had to spray their hair about five times a day....Someone borrows something everyday; they don't buy them one, you know....I hate being that way...but I bought my [own] stuff to come to school, and the rest of 'em, their parents had bought their stuff...they [others] don't think about stuff like that....When I get ready to study, the few books I do have, I have to go locate them first.

In the following, Joy talks about the reasons her ex-boyfriend, Frank, broke up with her.

> He wanted me to be a perfect lady: show a lot of respect for him,...dress neat...and I felt I couldn't really be myself. Like two people going together usually do a lot of planning, you know, just with each other. But once I started to doing it, he would get upset. I think he expected me to just talk to him, you know, like I would be talking to a stranger all the time....I don't think it was fair for me just to change completely for everything he wanted me to be....I can't understand why he said we shouldn't see each other anymore cause I feel that I was doing everything right.

As these examples suggest, informal group norms, though not always perceived negatively, can often be seen this way. This is particularly true for the women at B.U., where page after page of the interviews portray informal peer relationships (both in high school and at college) in a negative light. Perhaps, this orientation toward informal peer relationships at B.U. stems from the belief that, in general, one is in danger of being pulled away from one's goals by peers. John Ogbu, in his ethnography of education in Stockton, California, finds evidence for this belief among the black students in his study (1974: 127-132). Schwartz and Merten (1968) have argued that one way of gaining status is to describe others negatively as a means of metaphorically placing oneself above them. In contrast, at NCU, the emphasis seems to be on gaining support from informal peer associations rather than rising above them. This difference will be further discussed later in this chapter.

On the other end of the activity continuum from these informal, unnamed peer groups, lie the formal, institutionalized peer groups of which sororities are the prime example. Sororities are like other formal groups on campus such as activity clubs (e.g., ski club), major's clubs (e.g., Math Club), university committees (e.g., the film committee, yearbook committee), student government, and classes except that they encompass many more facets of one's life by arranging living and eating arrangements, by holding regular and frequent meetings, and by requiring planning of, preparation for and participation in many special activities.

Other formally organized groups, however, may also require considerable time and attention. Neli, for example, took a class in drug addiction during the first semester of her freshmen year. Later, the instructor and members of this class continued meeting regularly to discuss

issues in drug addiction, its prevention and rehabilitation. Eventually, after writing and receiving a small grant, this group began counseling people with drug problems. Nell is also a member of Intervarsity, a Christian campus group. As a member of this group, Nell attends meetings regularly, leads a small group for Bible study, and she attended a group retreat. In addition, she is indirectly involved in the decision-making of the group's executive board through one of her friends, who sits on that board.

As suggested above, dyadic relationships originally based on shared memberships in these groups sometimes expand into other kinds of relationships. For example, Nell met Steve in Intervarsity. She says of him:

> ...there's a guy named Steve and he's a senior and he's an interesting person, and he's in Intervarsity. He's on the "Exec" which is like: they make plans, a lot of plans, for meetings...[and then] he was in my Greek class...and he gave me a social psych book because he doesn't use it anymore and then he told me I should take him to lunch, and so I'm taking him out to lunch after this [the interview].

The friendship between Nell and Steve persisted, and they shared many conversations during the course of the study year. Nell also met Jerry as part of Intervarsity.

> ...we're [she and Jerry are] co-leaders for our small [Bible study] group, and we're getting along so well this year, because we were so different last year...there was always a strain....I would act really crazy...and tend to say things before I think about them. Jerry, he thought things out more than I...and...he has a greater knowledge about the Bible than I do, and it was just strange: our relationship was strange...And, like he speaks French, and he's learning Hebrew and he loves classical music and stuff like that. Those are things I can't relate to. And now I like the classical music and I like going to listen to the choir, and stuff like that, so we're starting to have some common ground...and we're going [together] to see the broadway shows [on campus] this year.

Thus, there is a potential that some shared memberships will expand into multifaceted dyadic relationships, just as on the other end of the continuum, some small groups develop around a set of people having dyadic relationships. In a sense, then, all peer relationships take place in the context of a (potential) group whereas all peer groups incorporate (potential) dyadic relationships between each pair of members. This social fluidity means that most peer groups are not clearly bounded either in terms of who belongs to the group or in terms of what is entailed by relationships between members of the group. In a sense, then, in discussing peer groups, we are discussing a social phenomenon that is perhaps more amorphous, more in flux, than most social phenomena that social scientists try to grasp. In fact, it is easier to see peer group process--that is, the processes of forming, negotiating, and withdrawing from peer relationships, the processes of small groups coalescing and dispersing, and the ebb and flow of influence within the group--than it is to see the structure.

PEER GROUPS AND IDENTITIES

Peer groups are relevant to college life in two important ways: 1) they define a set of relationships and create a set of activities which are important, in-and-of themselves, to a woman, and 2) they provide a source of direct encouragement (or discouragement) for and assistance (or lack of assistance) to one's career path. In this section, we will discuss the former: how peer groups in-and-of themselves come to be an important aspect of college life for the women who participate in them.

Peer relationships and activities engage attention and effort in part because they yield rewards, such as enjoyable experiences, and in

part because they are contexts in which one can practice, express, or demonstrate what one values about oneself. In their theoretical discussion of an individual's attraction to social situations, McCall and Simmons (1978) elaborate a concept, "role-identity" which is useful here. A role-identity is the image that one has of oneself in a given role, such as that of a student, a woman, or a friend. These role-identities, McCall and Simmons postulate, are aspects of the self that one seeks to validate in action.

Our data indicate that college women bring a set of interests and role-identities to college with them. These interests and role-identities lead women to seek and be drawn into relationships and activities which will allow them to have the type of experiences in which they can demonstrate those aspects of themselves which they value. Freshman and sophomore women are often involved in trying out relationships and activities to see whether they supply these opportunities. Rewarding experiences tend to be extended; unrewarding ones are curtailed. Bernadette's experiences provide a case in point.

During high school, Bernadette developed close friendships with a group of mostly male artists and musicians. Her initial contact with this group was through her slightly older brother who is a musician. Her contact with this group solidified when another musician, John, became her boyfriend. Through her association with John's family, Bernadette came to know several more artists. Bernadette showed her own art work to John and his mother, who is a dancer. Both encouraged Bernadette to pursue her art. Bernadette mentions that John's father is an illustrator, but she says she is nervous about showing him her work. At this time in the Life History Interview, Bernadette begins to describe herself as an artist

and thinks about pursuing art as a career. When she mentions this interest to her father, however, he is not pleased. Bernadette describes her father as worried "about having another artist in the family; artists just don't make much money."

When she goes away to college, Bernadette pursues her interest by taking some art courses, but she declares a major in botany (which is more in line with her father's idea that she become a scientist). Toward the end of the study year, she talks increasingly about how much she likes working on her art and gives several detailed descriptions of art projects she is working on. In these discussions, she calls artwork her "funwork" and contrasts this work with schoolwork (including the science courses) which she says she dislikes.

Also after going to college (and leaving behind her boyfriend and his friends as well as her parents), Bernadette appears to seek out people who are artistic and to value them more than her other acquaintances. For example, although she constantly criticizes her present roommate and wishes for a single room, Bernadette considers rooming with Jill, a woman whom she met at a jazz concert and who plays the guitar. At a restaurant dinner with a group of people from her dorm, Bernadette is highly critical of the group's taste in food (conventional), clothes ("straight") and politics (conservative). In contrast, at a picnic which Bernadette herself organizes, she has only praise for participants' tastes in music, politics (liberal), movies, and books. One of those invited to the picnic is a sixty-year-old man whose dancing at a dormitory-sponsored concert impressed Bernadette. Since she and this man met, they have become good friends, and she sees him at some time during almost every weekend. As the year progresses, Bernadette appears to be spending

less time with her roommate and her "straight" friends and more time with her artistically inclined friends. At least, her roommate and straight friends are rarely mentioned in the later interviews, whereas people such as Jill and Mark (the old man) come up frequently.

Aggie provides an interesting case to contrast with Bernadette. Aggie comes to college with her best friend from high school, and they room together during their freshmen year. In addition, Aggie's boyfriend, whom she has gone with since the ninth grade, has come to a nearby university. Aggie travels to the other university to visit her boyfriend every weekend. Aggie describes herself as a person who was admired as a brain by her high school friends. She says that both she and most of her friends (both male and female) valued good grades (Aggie's boyfriend is an exception: he is described as not very concerned about grades). Along with good grades, Aggie's female friends were service-oriented, and Aggie was most proud of being inducted into the National Honor Society because it honors persons who excell not only in academics but also in service and leadership. Aggie also describes herself and her best friend as "high school psychiatrists" because other friends came to them with personal problems.

When Aggie goes off to college, she has the opportunity to maintain some of the same peer relationships she established in high school. Both relationships are, however, affected by the move. As they begin college, Aggie and Kevin (her boyfriend) decide to date others. They see these dates as an opportunity to find out if they are really meant for each other. Toward the end of the first year, after some emotional discussions, they decide to go back to dating each other exclusively. Aggie is later asked to become a little sister for Kevin's fraternity. She agrees enthusiastically.

For Aggie and Lynn (her best friend) the situation is different. Just as the two of them seem to have made a joint decision to room together during their first year of college, they mutually decided not to room together the following year. Aggie explained that both of them wanted an opportunity to meet new friends. Further, she explained that when one of them would get upset, the other would too. She felt that this situation did neither of them any good because they could not help each other with their problems. They separated but remained friends. However, when Aggie moved off-campus to an apartment, she and Lynn saw each other less frequently. Aggie mentions that she tries to see her old friends (including Lynn) at least once a week, but she finds this difficult. Later, Lynn finds a boyfriend and seems to be losing interest in school. Aggie now sees her only occasionally.

Although some of the women in the ethnographic sample appeared to try harder than others to affect or negotiate their social situations to their liking, all the women selected and molded their peer relationships and activities to fit interests and identities which they brought with them from high school days. In other words, they were active participants in molding the peer group in which they became involved.

The fact that college women bring identities to school with them and that they are active participants in shaping their peer relationships does not mean that they simply recreate peer groups with which they are comfortable and familiar. For many of the women, there are also types of peer relationships and activities to which they are attracted, but which they find troublesome and difficult to control. In these problemmatic areas, the women appear uncertain of their values, role-identities, orientations, and/or their abilities to handle such situations. These problemmatic

situations sometimes seem to engage students to the point that they neglect other aspects of their lives. Sandy appeared to have such problems.

From all appearances, Sandy was a tomboy: she dressed in old jeans and T-shirts, she wore her hair long and straggly, she never wore makeup and she liked to talk tough. Surprisingly, at college, she surrounded herself with girlfriends who were extremely feminine in appearance and behavior and who had steady or many boyfriends. Sandy often invited herself to spend almost every night with this group of women and their male friends. These nights were usually spent drinking and talking and watching television in someone's dorm. Sandy, however, did not seem to be an important group member: in general, the others ignored her and she rarely spoke.

Sandy claimed to have a boyfriend back home but she rarely mentioned him. During her freshmen year, Sandy showed an interest in George, the cousin of one of her girlfriends' dates. During an observation when George was temporarily present, the researcher reported that Sandy seemed to liven up when George arrived and then monopolize George for as long as he stayed. Several times during the interviews, Sandy hinted (excitedly) that George might be attracted to her as a girlfriend.

The nights spent drinking and talking with George and others took their toll on Sandy. Soon she began having difficulty in her courses, a situation she had never experienced in high school where she took advanced placement courses. Sandy first tried to devote more time during the day to her studies. She reported that this strategy did not work because she always fell asleep. Then she said that she planned to cut back on her "partying." This strategy did not work either, because she was so often more attracted by what her friends were doing than by her studies. By the

end of her freshmen year, Sandy recognized her problems and was obviously upset over a pattern of excessive partying and poor grades from which she did not seem able to extricate herself. Finally, out of fear of parental reprisals, she went to a psychologist for help. Somehow, she made it through the semester.

The next fall, after a summer away, the pattern reemerged and was, in a sense, harder to combat. Now Sandy was living in an apartment with three popular women. The apartment was several miles from campus and frequently bustling with people. Sandy explained that she would like to study at the library, but without a car, she had difficulty getting there.

At about this time, Sandy was embarrassed by the disclosure that George, one of the only campus men who had shown an interest in her, was "gay." If anything, Sandy threw herself into activities with her apartment-mates and their male friends with even greater abandon. By the end of the fall semester, Sandy still did not have a boyfriend, still appeared on the periphery of her friends' activities, and was planning to be absent for one of her exams (which leads to an automatic "F" in the course) because she had not been attending classes nor keeping up with the assignments. In the end, Sandy did not take the exam nor did she return to campus the following semester.

Together, the preceding examples show that peer relationships are important to college women for several reasons. First, they provide opportunities to practice and/or test out certain role-identities. Secondly, when role-identities can be expressed in them, peer relationships provide enjoyable experiences to participants. Finally, even when the demonstration of peer role-identities is problemmatic, the pull of peer relationships can be strong.

As has often been pointed out, social forms, such as peer relationships, transcend the individual and, metaphorically speaking, have a life of their own. Thus, the participant is producing the peer group by expressing certain of her own identities and, at the same time, is constrained by past negotiations to continue to enact those identities she has established for herself in this and other groups. Each small group of peer relationships provides for expression of some identities, but not others. In the following, we discuss the relative importance of peer relationships at the two universities.

IMPORTANT PEER RELATIONSHIPS AND PEER ACTIVITIES AT THE TWO UNIVERSITIES

In the survey, we asked the respondents to indicate the importance that they attributed to 55 different kinds of peers and activities that had been identified during the ethnographic phase of the research. Respondents were asked to mark which phrase best completed items such as "My friendships with my close girlfriends are _____." Six options were provided as completions to the frame: 1) "one of the most important things in my life right now," 2) "one of the more important things," 3) "somewhat important," 4) "not very important," 5) "not at all important," and 6) "not part of my life right now." Table 2-1 summarizes the responses for friendships, romantic relationships, family, and socializing activities; Table 2-2 summarizes responses for sororities, sports activities, performing groups, religious activities, political activities, travel, and special clubs; Table 2-3 summarizes responses for academic and job-related groups and activities. The 55 different kinds of peers and activities have been grouped into 13 categories, as indicated in the Tables.

TABLE 2-1: IMPORTANCE OF FRIENDSHIPS, ROMANTIC RELATIONSHIPS, FAMILY, AND SOCIALIZING BY UNIVERSITY

	BU	NCU
FRIENDSHIPS	59.8%*	91.3%*
Girlfriends	3.47**	4.16**
New Women Friends	2.59	3.31
Male Friends	2.89	3.60
New Male Friends	2.76	3.40
ROMANTIC RELATIONSHIPS	71.5%	65.6%
Steady Boyfriend	3.51	2.73
New Steady/Main Boyfriend	1.76	1.98
Lots of Dates	1.40	2.05
HOMETOWN ACTIVITIES AND FAMILY	92.7%	89.6%
Own Sake-Family Connections	4.53	4.31
Their Sakes-Family Connections	4.58	4.37
Hometown Activities	2.83	2.36
SOCIALIZING	54.7%	90.2%
Parties To Go To	2.55	3.28
Having Friends Who Party	2.21	2.83
Get Together With Friends	3.15	4.04
Go Out With Boyfriends	3.38	3.70

*The main categories (those in all capital letters) are listed with the percentage of the sample which rated one or more of the items as one of the most or one of the more important things in their life right now.

**Range of each item, "0-5" with "5" (one of the most important things in my life right now) through "0" (not part of my life right now). The figures are the mean for each sample.

TABLE 2-2: IMPORTANCE OF SORORITIES, SPORTS ACTIVITIES, PERFORMING GROUPS, RELIGIOUS ACTIVITIES, POLITICAL ACTIVITIES, TRAVEL, AND SPECIAL CLUBS BY UNIVERSITY

	BU	NCU
SORORITIES	18.4%*	19.1%*
Being in a Sorority	1.64**	1.25
My Participation in a Sorority	0.85	0.81
Contact with Others Interested in Sororities	1.42	1.26
SPORTS ACTIVITIES	33.5	48.6
Following University Teams	2.68	2.80
Doing Some Sports Activity on a Regular Basis	2.66	2.92
Being in a Sports Club	1.68	1.69
My Participation in the Club I Belong to	1.63	1.73
Contact with Others Interested in Sports	2.20	2.13
PERFORMING GROUPS	34.6	23.5
Attending Performances	2.93	2.23
Being in a Performing Group	2.20	1.75
Developing Skills in a Performing Art	2.63	2.37
Contact with Others Interested in Performing Arts	2.70	2.25
RELIGIOUS ACTIVITIES	71.5	63.4
Following my Religious Beliefs	3.89	3.66
Attending Services Regularly	3.45	2.76
My Participation in Religious Groups	3.34	2.74
POLITICAL ACTIVITIES	71.5	49.7
Knowledgeable About Local Campus Issues	3.42	2.89
My Participation in Campus Groups	2.80	1.43
Being Knowledgeable about Special Interest Issues	3.28	2.85
My Participation in Special Interest Groups	3.16	1.28
Contact with Others Who Share Interests	3.24	1.68
Being Knowledgeable about State/National Political Issues	3.31	3.31

TABLE 2-2 (Continued)

	BU	NCU
POLITICAL ACTIVITIES (Cont.)		
Working with Policy or Electoral Groups	2.60	1.58
Contact with Others Interested in State or National Politics	2.66	1.93
TRAVEL	53.1	53.6
Travel During Next Vacation	3.50	3.41
Contact with Others Interested in Travel	3.24	3.17
SPECIAL INTEREST CLUBS	44.1	21.3
Participating in Special Interest Clubs	2.53	1.82
Achieving Recognition in this Area	2.85	1.76
Contact with Others Who Share my Special Interests	2.69	1.94

*Main categories are listed with the percentage of the sample which rated one or more of the items as one of the most or one of the more important things in their life right now.

**Range of each item, "0-5", with "5" (one of the most important things in my life right now) through "0" (not part of my life right now). The figures are the mean for each sample.

TABLE 2-3: MEAN IMPORTANCE OF ACADEMICS AND JOB/VOLUNTEER WORK BY UNIVERSITY

	BU	NCU
ACADEMICS	98.9%*	98.4%*
Maintaining Good Grades	4.57**	4.28**
Getting an Academic Award	3.66	2.57
Contact with Others Who Want to do Well	3.73	3.33
Doing Well in My Major	4.78	4.48
Participating in a Group Related to my Major	3.29	1.93
Achieving Special Recognition Related to my Major	3.64	2.63
Contact with Others Who Share my Interests	3.54	3.30
Acquiring a Good Education	4.68	4.51
Contact with Others Who Want a Good Education	3.84	3.62
JOB/VOLUNTEER WORK	81.0%	85.8%
Having a Job during School Year	3.22	2.50
Doing Well in my Current Job	2.94	2.23
Contact with People Who Share my Job Concerns	2.90	2.00
Having a Job for the Summer	3.93	4.04

*Main categories are listed with the percentage of the sample which rated one or more of the items as one of the most or one of the more important things in their life now.

**Range of each item "0-5", with "5" (one of the most important things in my life right now) through "0" (not part of my life right now). The figures are the mean for each sample.

An overview of the responses can be gained by considering a profile of the "average" woman student from each university. In order to compile this profile, we have taken the item with the highest mean from each of the 13 categories and listed it under its importance ranking.

The profile for the Bradford University sophomore woman is as follows:

Most Important Things in My Life Right Now--BU:

Doing well in my major (mean = 4.78)

Keeping in contact with my family (4.58)

More Important Things--BU:

Having a job or volunteer work to do for the summer (3.93)

Following my religious beliefs (3.89)

My relationship with my steady (or main) boyfriend (3.51)

Going somewhere new and exciting over Christmas, spring break, or this coming year (3.50)

My friendships with my close girlfriends (3.47)

Being knowledgeable about local campus issues (e.g., university policies on grading, allotment of student fees, alleged discrimination in admissions) (3.42)

Going out with my boyfriend(s) or dates (3.38)

Somewhat Important Things--BU:

Attending the performances of one of the university's performing groups (2.93)

Achieving special recognition for my talents, abilities, or efforts in special interest clubs or activities (2.85)

Following one or more of the university sports teams (2.68)

Not Very Important Things--BU:

Being in a sorority here at the university (1.64)

The averages for the North Carolina University sophomore woman reveals a somewhat similar profile:

Most Important Things in My Life Right Now--NCU:

Acquiring a good education here at the university (mean = 4.51)

My friendships with my close girlfriends (4.16)

Getting together with my friends (4.04)

Keeping in contact with my family (4.37)

Having a job or volunteer work to do for the summer (4.04)

More Important Things--NCU:

Following my religious beliefs (3.66)

Going somewhere new and exciting over Christmas, spring break, or this coming year (3.41)

Somewhat Important Things--NCU:

Doing some activity like swimming, jogging, racquetball, or tennis on a regular basis (2.92)

Being knowledgeable about local campus issues (e.g., university policies on grading, allotment of student fees, alleged discrimination in admissions) (2.89)

Keeping up or developing my skills in some performing art (2.37)

Things That Are Not Very Important in My Life Right Now--NCU:

Keeping in contact with people who share this special interest with me (1.94)

Keeping in contact with people who are interested in sorority activities (1.26)

Although these profiles are similar for the two groups of women, they show that a wide range of activities, groups, and pursuits are important aspects of college women's lives. If we conceive of college life as a wide range of opportunities from which participants select and which, once chosen, form a segment of participants' career paths, then it is instructive for the present study to compare the importance attached to

those groups and activities that are directly relevant to future work or occupation with the importance attached to those groups and activities that are not as directly related to work or occupation.

The categories most directly related to work or occupation are the nine items grouped in Table 2-3 under Academics and the four items grouped in Table 2-3 under Job/Volunteer Work. These items will be referred to as "career goals and identities;" fellow students involved in activities related to these academic and job pursuits will be referred to as "career-related groups." All other categories will be referred to as "non-career" goals, identities and groups.

In comparing career groups and activities to the non-career groups and activities, an obvious finding is that there are many more non-career than career groups and activities. As mentioned above, the 55 items in the list were drawn up on the basis of the ethnographic research which revealed the various interests of the women in the sample. From the rating of these items according to importance, as indicated in Tables 2-1 through 2-3, it is also clear that many of these non-career identities, groups, and activities are equally if not more important than career identities, groups, or activities.

However, for both universities, Academics and Job/Volunteer Work are two of the highest categories. Eighty percent or more of each sample selected at least one of the items in that group as one of the most or more important things in her life at the time of the survey. Family items were rated at a similar level of importance at both universities. For NCU students, Friendships and Socializing were also at a similar level of high importance.

Romantic relationships and religious activities were also rated as

important at both universities. Between sixty and eighty percent of each sample rated at least one of the items in each of those groups as one of the most or more important things in her life at that time. For the Bradford University students, Political Activities were equally high in importance.

Thus, it would appear groups and activities related to preparation for work are important to college women. However, peer relationships based on friendship, romance, religious activities, and political concerns are high in importance alongside groups and activities relating to career preparation.

With regard to peer relationships oriented around career interests, it should be pointed out that these relationships are rated as less important (on the average) than individual academic achievements and rewards from the university. Table 2-4 focuses specifically on the importance attached to career activities and career-based peer relationships. The top items on this list have to do with making good grades, doing well in one's major, acquiring a good education, and having a job for the summer. On the average, non-peer academic/job activities and pursuits were rated at a level of 3.93 for Bradford University, and 3.19 for North Carolina University. Peer contacts related to these pursuits were rated as less important. For BU, the average rating was 3.46; for NCU, 2.84.

PEER ACTIVITIES AND IDENTITIES THAT COMPETE WITH CAREER

As argued earlier, different peer group relationships and activities have different foci which allow or foster the expression or realization of different identities and rewards. Even though there may be participants

TABLE 2-4: AVERAGE IMPORTANCE ASSOCIATED WITH PEER VERSUS NON-PEER CAREER ACTIVITIES BY UNIVERSITY

	BU	NCU
Average for All Career Items	3.75 (s.d.=.62)	3.19 (s.d.=.94)
Average for Non-Peer Career Activities	3.93 (s.d.=.69)	3.41 (s.d.=1.0)
Maintaining good grades here at the university	4.57	4.28
Getting an academic award and/or an invitation to join an academic honorary	3.66	2.57
Doing well in my major	4.78	4.48
Achieving special recognition or an award related to my major	3.64	2.63
Acquiring a good education here at the university	4.68	4.51
Having a job or doing volunteer work during the school year	3.22	2.50
Doing well in my current job or my voluntary work	2.94	2.23
Having a job or volunteer work to do for the summer	3.93	4.04
Average for Career Oriented Peer Activities	3.46 (s.d.=.38)	2.84 (s.d.=.81)
Keeping in contact with others who want to do well in school	3.73	3.33
Participating in a special interest club (e.g., math club) or sorority (e.g. business sorority) related to my major	3.29	1.93
Keeping in contact with others who share my interests and concerns about my major	3.54	3.30
Keeping in contact with others who want to get a good education	3.84	3.62
Keeping in contact with people who know about and share my concerns and interests in my job or volunteer work	2.90	2.00

in common between the different groups, the different foci, the different tone, and often the different meeting place create a different social situation which is more amenable to expression of some interests than others.

It is clear from the previous section that women students at the two universities pursue a number of identities and rewards besides those associated with academics and jobs. The most important of these "other" identities and rewards are those associated with friendships, romance, politics, and religion. In this section, we address the extent to which the demands and rewards of these other identities compete with those related to career path.

Peer relationships are based, in general, on voluntary co-participation in various activities and in exchanges of assistance and attention. These requests for company, for assistance and for attention are fluid and usually non-scheduled so that participants may be faced with making choices between their own work and peer activities or favors for friends. Aggie, for example, discusses how the demands of her relationship with her boyfriend have affected her attitude about school.

> I'm really disillusioned with school....I don't know if I can be any better...I think I'm just tired, and I just don't care. We've all turned into weird people. I don't know. I guess...a lot of the reason why I'm disappointed this year is the problems me and Kevin [her boyfriend] have had....Maybe I should transfer over [to the school where Kevin goes]. At least I can do what I have to do [meaning: keeping up with her relationship with Kevin].

Although the women in the ethnographic sample did not mention demands of this kind frequently, it appears that they were in fact lured away from their studies and schedules by what might be considered weakly stated demands from peers. It was common, for example, for someone to

come down the hall announcing an interest in going to dinner or a movie or to the gym. When such requests are made, others usually agree to go along, especially if they are close friends with the person making the request. Although not explicitly recognized as an intrusion on one's time, such requests require a reordering of activities in order to accommodate the request and may have important effects.

One student explained what happened as she and her suitemates were preparing to leave her room for a night of studying for the next day's exams.

> We had a spontaneous party....everyone was here...til 2 in the morning. We made all kinds of daiquiries....My parents called last night [during the party] and I never knew it. They couldn't believe we partyed the night before exams. I can't believe we did. I've never done anything like that in my life...

Sometimes, as in the preceding example and the case of Sandy described earlier, these demands are hard to control. People may devote more time to responding to these demands than they originally intended. The survey contained two questions about people and activities that might have taken an extraordinary amount of time:

> Q38: Have any of the following people taken up an unusually large amount of your time and energy this semester? That is, has anything unexpected or extraordinary happened which caused you to spend more time with them than you had planned?
>
> Q39: Have you spent an abnormally large amount of time this semester on any of the following activities? That is, have you spent such a large amount of time and energy on them that you ended up cutting down on the other things that you normally do?

Table 2-5 gives the percentage of each sample which indicated that certain peers (e.g., girlfriends, boyfriends) and/or certain activities (e.g., partying and/or getting together with friends, joining or participating in a sorority) had taken up an inordinate amount of time during

TABLE 2-5: PEOPLE AND ACTIVITIES WHICH TOOK EXTRAORDINARY AMOUNTS OF TIME BY UNIVERSITY*

	BU	NCU
Girlfriends	26.3%**	29.1%**
Male Friends	15.9	14.8
Boyfriends	31.4	36.5
Family Members	33.0	24.0
Hometown Activities	6.7	5.5
Partying and/or Getting Together with Friends	20.7	30.6
Dating	20.1	32.8
Keeping Up With the University's Team(s)	20.9	10.4
Participating in Sports or a Regular Physical Activity	11.7	11.5
Attending Performances of University Groups	16.2	6.6
Participating in a Performing Group or Practicing	9.6	5.5
Joining or Participating in a Sorority	6.7	17.5
Religious Concerns and/or Participation in a Religious Group	12.3	15.8
Local Campus Politics	8.9	5.5
Participation in Special Cause Groups (e.g., blacks, women)	18.0	2.2
State and/or National Politics	12.4	8.7
Trying to Make Good Grades in all your Courses	84.8	75.4
Learning About and Trying to Do Well in Your Major	88.2	68.7
Pursuing Academic Interests	70.9	48.1
A Job or Volunteer Work	38.8	34.1
Planning and Taking Trips	17.3	19.1
Other Special Interest Groups	22.3	13.7

*The mean number of extraordinary demands from peers and peer-related activities for the BU sample was 6.19; for the NCU sample, 5.56.
**Percentage of sample.

the past semester. Bradford women reported an average of 6.19 (variance = 10.37) people and/or activities (other than family and hometown activities) that took an extraordinary amount of time during the semester, while NCU women reported an average of 5.56 (variance = 8.93). When the career related activities are omitted, the figures drop to 3.34 (variance = 8.60) for BU and 3.31 (variance = 7.53) for NCU.

Although the problem of balancing the competing demands from peers and non-career activities does seem to be something of a concern to freshmen and sophomore students as indicated in the data given in Table 2-5 and as voiced in the ethnographic research, most women appear to be able to keep these demands under control. At least, for BU, we did not find that the level of extraordinary demands helped to "explain" a significant amount of variance in the "available energy" that women reported they had for their career pursuits. At NCU, on the other hand, "extraordinary demands from peers" was revealed as a negative correlate of available energy (see Chapter III).

Available energy was computed in the survey by summing across the five items listed in Q42 (see Table 2-6 and Appendix I-1 which contains the survey instrument.) Basically, this question asked about interferences with schoolwork. The fewer the interferences, it was assumed, the more available energy a student would have for her coursework. Averages for each of the five items are given in Table 2-6. The sum of the five items allowed available energy scores ranging from 25 (maximum energy) to 5 (minimum energy). For the Bradford sample, the average sum was 16.9, while the average sum for NCU was 14.9. The relationship between extraordinary demands and available energy was in the expected direction: the greater the demands, the less available energy for academic pursuits. However, the relationship was significant for the NCU but not the BU sample.

TABLE 2-6: AVAILABLE ENERGY FOR PURSUING STUDIES BY UNIVERSITY

	BU	NCU
INTERFERENCE FROM:		
Things One Needs To Do	3.36*	2.95*
Things One Wants To Do	3.31	2.77
Things Others Want One To Do	3.60	3.05
Feeling Too Tired	3.22	2.93
Feeling Too Upset	3.42	3.22

*Range "1-5" where respondents were asked to indicate if they ever put off schoolwork because of the interferences listed above. An answer of "1" refers to "most of the time;" "2" a lot of times;" and so on with "5" referring to "never."

COMPETING REWARDS

Just as non-career identities and activities sometimes encroach upon time and energy that was set aside for studies, the demands of schoolwork are often seen as encroaching upon non-career relations and activities. In part, this situation is due to the extraordinary amount of time which some students think they should devote to schoolwork. In addition, non-career identities and activities are attractive.

The time commitment which some students make to schoolwork is described in the following excerpt.

> I have been reading and studying Chemistry every night for the past week. I studied all day Saturday, then I studied til Saturday night, til about 7. Then I started studying for my Econ test, which was Monday. I studied all the rest of Saturday night until real late, all day Sunday and Sunday night. Then Monday afternoon til dinner and then Carol and I went to the library at 7 p.m. We came back at 2 a.m. That's about seven hours [?]. Tuesday I went to the library at noon and I came back at 2. We studied twenty hours in two days in the library.

This view of inordinate time demands of studies is also revealed in the survey. Career-related activities are seen by a large majority of each sample as taking an extraordinary amount of time (see Table 2-5). Trying to make good grades and learning about and trying to do well in one's major were responded to by large proportions of each sample as resulting in having to cut down on other things that the respondents normally did. In effect, career activities and relations are seen by many as interfering with other concerns.

The identities and activities associated with other life concerns remain attractive, however, and tempt students away from their work. In the first example, Joy seems to have overcome this temptation but the tension between work and other activities is strongly felt and has its costs.

> Joy: 'I don't have that much time to be talking to my friends. I have a lot of studying to do....Some of my friends get upset and tell me that I'm just a partypooper and [that] I don't like to do alot of things...cause I have to study. They'll be real upset about that... and alot of times [they], when they have somewhere to go, they'll just go. One time, this sorta of bothered me in a way cause I wanted to go with them places, they'd be having a good time....[But, it] was better for me: staying in the room and doing my work.'

Later, Joy indicates that her resolve has faltered.

> Joy: 'If I do homework every night and on the weekends, I can probably do a good job in my courses...[but] during the week I'm pretty lazy....I try to study but I just go to sleep...or, you know, somebody'll come along and want to do something.'

It appears, in following Joy's case, that she is pursuing non-work identities and rewards more frequently as the year progresses. She reports, for example, that she did not work very hard on a presentation to her speech class, that she had to write a shortened critique of a music concert because she got there late, and that she changed one of her speeches to a topic she had previously researched for another class. At the same time, Joy is spending a great deal of time with Frank, her new boyfriend.

Another student, Gina, explains the conflict more directly

> I don't wanna to go class and stuff...I hate going to class... Everybody's sitting out there on _____St., and I wanna go out there too and sit--and not go to class.

Apparently Gina does not study very much either, as reflected in a comment made to her during an observation.

> The group decided to go see what was going on at the gym tonight. They thought some of their friends would be there. Gina said that she was going back to the dorm. She said she needed to study. Her friends laughed and speculated that she would end up talking to her boyfriend on the telephone.

Like Joy, Gina was cutting back on her course-related activities.

As will be discussed in Chapter III, women choose majors with an eye to how much time they take and whether they allow for the realization of other identities and activities. It will also be seen, when the "Continuation Model" is discussed, that the degree of attachment to non-career identities "explains" some of the variance in likelihood of continuing with present major, at least for BU women. Adding together the items presented in Tables 2-1 and 2-2*, we came up with an indication of the degree to which respondents to the survey were attached to non-academic activities and identities. This variable which we refer to as "competing peer rewards and identities" has a range from "0," which indicates that the respondent did not assign importance to any of these relationships and activities, to "230" which indicates that the respondent rated all of the 46 items as one of the most important things in her life at that point. The Bradford University sample had a mean of 115.95 (variance = 668.42) for the variable of "competing rewards/identities" while the North Carolina University sample had a mean of 104.06 (variance = 450.07). As will be discussed in more detail below, the analysis of the regression of the dependent variable (likelihood of continuing major) on a set of independent variables including "competing peer rewards/identities" produced a significant regression coefficient for the Bradford University sample (p of .0352) in the predicted direction with a standardized slope value (beta weight) of -.204. As the number of competing identities increases, the predicted likelihood of continuing with the declared major decreases. Interestingly, the NCU sample shows no such relationship. The parameter estimate produced a value of .008 which was non-significant with a p of .92.

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*Job items were included in this variable because of the dependent variable - likelihood of continuing to pursue training in the chosen majors.

ASSISTANCE AND SUPPORT FROM PEERS

Although in many cases peer relations emphasize activities and identities that are disparate from the activities and identities associated with career, there are points at which non-career-related peer relationships play a role in career efforts. Although schoolwork and academic pursuits are neither the main focus of peer activities nor the basis for many of the peer relationships we have described, peers may be a source of assistance and support in these areas. The ethnographic phase of research revealed several obvious areas of support: 1) assistance with decisions about programs of study; 2) assistance with problems encountered in coursework; 3) direct help by serving as a study partner, by typing papers and by running errands; 4) moral support by giving friendly encouragement; and 5) indirect help by making one happy. Along with questions on these kinds of peer supports, we also included survey questions that concerned implicit instruction from peers as to how much time to put into studies and what standards of performance are reasonable. These latter items will be discussed in the next chapter.

Tables 2-7 through 2-11 list the percentage of different types of people whom the survey respondents checked as providers of the first five types of assistance. A glance at these tables reveals the types of people who are most commonly reported to give assistance: girlfriends, boyfriend(s), family, people from courses, fellow majors, people from religious activities, people from special interest groups, and people from one's job. Although we have not cluster-analyzed these data, an inspection of the tables suggests that there are clusters of helpers who give similar types of help. Family and boyfriend, for example, seem to

TABLE 2-7: PEOPLE WHO HELP WITH PROBLEMS WITH COURSEWORK

	BU	NCU
Girlfriends	51.1%*	64.3%
Male Friends	36.2	49.9
Boyfriend(s)	38.8	30.6
Family	46.1	26.2
People from Sports Activities	7.5	1.1
People from Performance Activities	12.6	2.7
Sorority Sisters	5.2	14.4
People from Religious Activities	18.3	12.6
People from Political Activities - 1	9.6	3.3
People from Political Activities - 2	15.4	1.6
People from Political Activities - 3	5.7	1.6
People from Courses	78.1	88.0
Fellow Majors	75.6	75.3
People from Special Interest Clubs	24.3	6.0
People from my Job	19.2	8.7

* Percentage of sample who said "yes."

TABLE 2-8: PEOPLE WHO GIVE DIRECT HELP BY STUDYING TOGETHER, TYPING ONE'S PAPERS

	BU	NCU
Girlfriends	46.3%*	54.9%
Male Friends	26.6	35.7
Boyfriend(s)	36.2	27.9
Family	37.3	13.1
People from Sports Activities	6.4	1.7
People from Performance Activities	10.3	1.6
Sorority Sisters	4.0	11.6
People from Religious Activities	14.3	7.7
People from Political Activities - 1	6.8	2.7
People from Political Activities - 2	12.6	0.5
People from Political Activities - 3	5.1	0.5
People from Courses	53.4	65.0
Fellow Majors	61.1	51.1
People from Special Interest Clubs	21.0	4.4
People from my Job	15.2	2.2

* Percentage of sample who said "yes."

TABLE 2-9: PEOPLE WHO HELP WITH DECISIONS ABOUT ONE'S PROGRAM OF STUDY

	BU	NCU
Girlfriends	31.1%*	44.5%
Male Friends	22.0	24.7
Boyfriend(s)	45.5	36.6
Family	64.5	73.2
People from Sports Activities	4.0	3.3
People from Performance Activities	11.9	1.6
Sorority Sisters	4.6	9.4
People from Religious Activities	18.9	18.1
People from Political Activities - 1	8.0	5.5
People from Political Activities - 2	16.0	3.3
People from Political Activities - 3	8.0	2.7
People from Courses	50.6	37.2
Fellow Majors	55.4	61.5
People from Special Interest Clubs	22.0	6.0
People from my Job	21.5	17.5

* Percentage of sample who said "yes."

TABLE 2-10: PEOPLE WHO HELP WITH FRIENDLY ENCOURAGEMENT

	BU	NCU
Girlfriends	88.1%*	96.2%
Male Friends	73.9	86.8
Boyfriend(s)	78.4	69.9
Family	91.2	92.9
People from Sports Activities	28.0	30.2
People from Performance Activities	27.4	17.6
Sorority Sisters	10.4	18.8
People from Religious Activities	58.2	53.6
People from Political Activities - 1	21.7	11.5
People from Political Activities - 2	33.0	7.1
People from Political Activities - 3	12.6	4.9
People from Courses	83.0	83.6
Fellow Majors	79.3	74.7
People from Special Interest Clubs	49.7	37.7
People from my Job	48.9	44.8

* Percentage of sample who said "yes."

TABLE 2-11: PEOPLE WHO HELP INDIRECTLY BY MAKING ME HAPPY

	BU	NCU
Girlfriends	75.3%*	91.3%
Male Friends	62.2	83.0
Boyfriend(s)	74.7	67.2
Family	85.9	89.1
People from Sports Activities	27.6	26.4
People from Performance Activities	26.1	12.6
Sorority Sisters	8.0	18.8
People from Religious Activities	48.9	45.9
People from Political Activities - 1	17.5	8.3
People from Political Activities - 2	28.0	4.9
People from Political Activities - 3	11.9	6.0
People from Courses	65.0	47.5
Fellow Majors	64.6	39.6
People from Special Interest Clubs	43.2	31.7
People from my Job	40.8	30.2

* Percentage of sample who said "yes."

serve as advisors (helping with decisions about course of study) and supporters (giving friendly encouragement and happiness), but not as co-workers (helping with schoolwork) nor as tutors (helping with problems in coursework). People from religious activities and one's job, and, for BU, people from special interest groups serve as supporters, but do not assist by helping out with schoolwork, tutoring, or giving advice about one's course of study. For students at NCU, male friends are common sources of tutoring, but not at BU. Especially at NCU, girlfriends commonly give assistance in all four ways as co-workers (helping directly with schoolwork), as tutors, as advisors (helping with decisions about programs of study), and as supporters. At BU, it was less common to find girlfriends being relied upon as advisors.

For the NCU sample, the amount of support ("indirect help") a respondent reported receiving from these different sources (as listed in Table 2-10) did turn out to be related to her score on "available energy for studies" (listed in Table 2-6). A multiple regression analysis was performed with "available energy for studies" as the dependent variable. Amount of support was included along with other variables in the set of independent variables. For the NCU sample, the parameter estimate of .248 proved to be significant at the .0001 level. As amount of support increases, available energy for studies increases. For the Bradford subsample, the partial regression coefficient was .015 with p of .825. In the case of direct assistance, there was no significant relation uncovered between available energy and amount of direct support either for BU or NCU. In other words, if direct support in the form of tutoring, advising, and sharing work with peers does correlate with likelihood of continuing in the present major, it is not through the intervening variable of available energy for studies.

BALANCING LIFE CONCERNS AND THE ABSENCE OF AWARENESS OF SPECIAL PROBLEMS FACED BY WOMEN

In screening informants for the ethnographic phase of the research, we found that a large majority of the women who answered our preliminary questions saw their futures as including both a career and a family. Since many of the women we initially interviewed were responding to posters and ads placed around campus, we wondered whether a disproportionately high number of women who envisioned themselves as having a career and a family had self-selected themselves for the study. Apparently this was not the case since the survey sample (which was drawn by random sample) showed a similar pattern. Even though we asked for preferred future within two years of graduation (instead of ten, as we had asked in the screening questions), roughly 50% of the Bradford University sample and 60% of the North Carolina University sample indicated that they would like to be married at that time. At the same time, roughly 95% of the BU sample indicated they wanted a full-time career, as did 85% of the NCU sample (see Table 2-12).

This projected future bears a resemblance to the pattern of multiple emphases that the women reveal in their present college lives. In this pattern, career is only one among a number of things that women consider to be "the most" or "the more" important things in their lives. As has been pointed out above, it can be difficult to keep these various emphases in balance. One of the ethnographic informants, Karla, commented upon how she and a close girlfriend from high school had counseled one another to avoid the pitfall of getting too romantically involved.

> We used to talk together about what we're going to do... cause we'd hear about these girls who'd go off to school and they'd say,' Oh, wow, I want to be a journalist, or I

TABLE 2-12: PREFERENCES FOR MARITAL AND CAREER STATUS TWO YEARS AFTER SCHOOL BY UNIVERSITY

	BU	NCU
	(N=179)	
Marital Status		
1. Being Single	49.2%	39.2%
2. Being Married	48.6	57.5
3. Other	2.2	3.3
Number of Children		
1. None	71.5	87.2
2. One	16.8	8.3
3. Two	8.4	2.2
4. More than Two	3.4	2.2
Career		
1. Full-time Career	93.3	84.0
2. Part-time Career	6.1	14.9
3. Not Being Employed	0.6	1.1

> wanna be a doctor and things like that, and they'd get married, or just date so much, or something like that, that they wouldn't keep their grades up and they wouldn't achieve their ambitions. And we said that's never gonna happen to us.

But, Karla revealed, her girlfriend had disregarded their mutual advice and fallen into the familiar trap.

> ...she's always been really high on getting a career and not letting her personal relationships keep her from attaining her ambitions...but she's fallen madly in love... and she's living with him now in his apartment and her grades got so bad this semester that she might have to go to [another school] to bring her average up...the courses would probably be a little easier....

Finally, Karla said that this situation had also affected her relationship with her old friend.

> You see, when things started to get bad for her, she stopped writing me letters...she's always had a sense of pride. I don't think that she wants to let me know that she's gone ahead and done this.

On the basis of our ethnographic observations and interviews, the exchange of advice just described about balancing life concerns in college is not particularly common. Even less common are discussions of how women might be able to achieve the combination of boyfriend or family and career.

This finding is particularly striking in light of the fact that, especially at NCU, the women are projecting futures for themselves that differ from the lives lead by their mothers. Table 2-13 indicates that roughly 35% of the BU sample and 70% of the NCU sample had mothers who either did not work or worked only parttime during the time that they (the respondents) were at home. This point will be further discussed in Chapter III.

Karla, the informant referred to above, also made some comments to

TABLE 2-13: MOTHER OR FEMALE CARETAKER'S WORK STATUS AS RESPONDENT GREW UP

	BU	NCU
Did Not Work Most of the Time	16.2%	44.8%
Worked Part-time	19.6	24.6
Worked Full-time	64.2	30.6

the interviewer about the lack of rationality in her suitemate's efforts and aspirations for the future. The suitemate worked most of her waking hours to secure a degree in business. The only time she took off was to visit with her fiance, a man which Karla adjudged to have very traditional values regarding women remaining in the home. Karla says of her roommate:

> ...she works extremely hard. She's very serious about the business degree. It's a miracle to me that she does work so hard when she's obviously planning to marry a man who doesn't want her to work. But, apparently this is not a subject they discuss much....I can just see it, he's such a chauvinist: He walks into the house and she says, 'Oh, honey, I've got the most wonderful news. I've been transfered to the central office in Seattle. So, I guess we'll have to move to Seattle.' He'll say, 'What? and leave my job?' The fact is, when she comes out of this college and she does get a job, unless she takes something so far below her credentials, she's gonna have twice as good, twice as well-paying a job as her husband. And in some marriages, that wouldn't cause a problem, but being as how [he's] in business also, and being as how [he's] rather traditional in his views toward the proper deportment of women, I can..., foresee, tremendous friction there.

Again, the kind of assessment revealed in Karla's comments were rarely discussed by other informants nor were they a topic of conversation in many of the approximately 180 peer activities in which we participated with the informants.

The same could also be said for recognition of special difficulties faced by women at the university. Again, Karla proved the exception who contrasted with most of the other cases when she discussed the tendency of professors in the "hard" sciences like chemistry to assume that female students in their courses are not serious about pursuing the field. She described her chemistry class this way:

> I'm the only girl in there....I thought it would be a little slower with those high-powered male minds, but apparently it's not, because I'm doing better than anyone

> in that class....They assume, if you're male, that you are capable of learning it. And if you don't you just study. If you're a girl, you have to do very, very well to have people concede that you can do well. If you flunk, it's not because you didn't study, it's because you're not capable of understanding it....in certain science courses, you still have to prove yourself if you're female. You have to go in there and be aggressive about answering some of the questions and do a good job on the homework the first couple of times...you just have to pull a little extra effort at the beginning and everything runs smoothly after the first three weeks. Nobody's unkind, but they're sitting there waiting for you to slip up and if you don't, then you're OK for the rest of the course.

Thus, leaving aside a few of our informants, there was little indication of awareness of women as a group that is advantaged or disadvantaged in relation to rewards and resources available from the university; of the problems that women face in trying to balance a large number of life concerns; or of the difficulties that women are likely to face once they graduate and try to achieve aspirations that, to some extent and especially for the NCU sample, represent a difference from that to which they have been exposed in their own families. While it might have been envisioned that these sorts of concerns and questions might have been part of the "tradition" passed on in peer groups, this did not seem to be the case at the two universities where this research was conducted.

SUMMARY

During their freshman and sophomore years of college, the college women in our sample are involved in a variety of groups, activities, and identities that are important to them. Some of the peer activities and relationships constitute contexts that are aside and apart from academic pursuits. Although these peers do give some assistance and support to career endeavors, these relationships are important primarily as opportunities to enact valued role-identities and to engage in rewarding

activities, the content of which has little to do directly with the academic career.

As what can in some sense be thought of as an independent sphere, non-career peer relationships compete with career concerns for time and attention. For Bradford University, we found the greater the number of these competing peer relationships and identities, the more likely the woman was to think of discontinuing her present major. For North Carolina University, we found that lack of happiness- or support-giving relations with peers affected the amount of energy available for school-work. As will be seen in the next chapter, available energy is associated with likelihood of continuing to pursue training in one's chosen major.

Despite the fact that these women, in their present college lives, must try to balance the many goals and interests that they are pursuing, and despite the fact that their projections for the future involve a multi-faceted life, there is little "tradition" passed along in peer groups to address the questions of how such balance might be achieved. Similarly, we found little evidence of conscious models of women as a group facing particular challenges in college life or in American society.

CHAPTER III: COLLEGE WOMEN'S DECISION PROCESS ABOUT CAREER AND PEER-GROUP INPUT

In Chapter I, we introduced the concept of "career path" and described it as a metaphor for progress through the various phases of training for, entering into, participating in, and leaving occupations. In this chapter, we focus upon the portion of career paths that women undertake in their first two years of college and, in particular, upon peer group relationships that affect the directions taken and the progress made.

OVERVIEW

Our research suggests a general picture: women arrive at college with a set of one or more possible future career identities*; a set of career related abilities, talents, and interests which they attribute to themselves with different degrees of certitude; and a notion of the rewards and demands of such a career. This point should not be construed to mean that these "career conceptions" are either clear or based on any sort of "objective" assessment. Quite the contrary is true in many cases. Nonetheless, these conceptions constitute the baggage with which women begin on the college segment of their career paths.

The metaphor of career paths accurately conveys the constraints inherent in these conceptions. Being at one place along the path, at one point in time, determines distances to other points as well as the visibility of various parts of the terrain and potential destinations. The past constrains the future, both in terms of meeting entry conditions (e.g., requirements for entering certain programs of study) and in terms of what the person feels is desirable and feasible.

Especially during the first year, women undergo a process of adjusting to, creating and molding--to the extent that they can--a life for themselves

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*"Career" at this stage is often conceptualized in terms of what subject one plans to major in.

at college. In the process, they encounter feedback which they interpret as reflecting upon their abilities, talents, and interests as learners, as well as women, as romantic partners, as typical or non-typical students, and so forth. In terms of career identities, this onslaught of feedback and subsequent attribution to self emphasizes some identities relative to others. At the same time, the university calls upon the woman to choose among her career identities and to begin to pursue a course of study which will supposedly train and credential her in her chosen field. During this period, women reevaluate their career identities and may discard some, in their stead developing other career interests that were previously less salient or that may have been dormant. This process is examined in more detail below.

Some of the feedback encountered in the first year is interpreted as an indication of the type of university one is attending, the rules and demands of the university, and the type of people that one's fellow students are. It is interpreted, in other words, not as information about self, but rather information about the situation and its <u>other</u> participants.

A basic difference between students at BU and NCU seems to be that, in relation to their career identities, BU students tend to interpret academic feedback in institutional terms while NCU students interpret it in personal terms. BU students tend to be clearer than NCU students about their choices for future careers and tend to take feedback as indicative of how well their college experiences are helping them to progress toward the credential(s) needed to enter the career. NCU students, on the other hand, are less sure of their choices and take feedback as indicative of whether they are suited to certain careers (or majors) and vice versa. Thus, while the patterns to be described below fit both samples to some extent,

BU students tend to emphasize one set of considerations while NCU students tend to emphasize another.

Below, we first describe what women bring to school with them in the way of career interests and identities; secondly, we describe the process of discarding identities and thirdly, we describe factors which affect the likelihood that a woman will discard a career identity. Particular attention is given to those factors which have to do with peers.

THE SUITCASE OF CAREER IDENTITIES AND INTERESTS WHICH WOMEN BRING TO COLLEGE

Women arrive at the university with a history of thinking of themselves as good or bad in certain subjects; as wanting to "be" certain things, like doctors, nurses, or artists; and as wanting to "do" certain things, such as get good grades, travel, eventually get married and so forth. Career identity histories collected from each member of our ethnographic sample made it evident that most of the women had quite elaborate notions of themselves in these regards. Appendix III-1 contains the summarized histories of three women chosen to represent the range of types from each university. (See also Chapter II where the case of Bernadette is described.) Some general points concerning these histories are relevant here.

Career Identity Histories of Bradford University Women

In recalling the career interests they have had over the span of their lives, the black women in our group tend to have considered a fairly small number of career interests and to associate these interests with family, community, or school adults they have known. During elementary school, careers most often mentioned include teacher, social worker, stewardess, model, and actress. Except for actress, these careers are associated with

older family or black community members, all females, e.g., one woman had an older sister who wanted to be a stewardess, another had an aunt who was a teacher, and a third knew a woman from the community who was a social worker.

Of these early role models, most respondents say that they decided not to emulate such models. That is, respondents portray the role model and/or her job in a negative light. Respondents portray themselves as not having the proclivities or interests for that kind of job or they talk about the problems associated with such a job. Hard work for low pay is the most frequently mentioned problem associated with these jobs. Thus, these women tend to justify their lack of interest in those careers traditionally found among black women on the grounds that such jobs are too much work for their low pay scales or that such jobs require talents or interests which these women do not believe they have.

This pattern of presentation does not usually change until the women begin to talk about their junior or senior high school years. At some point during these years, all of the women in our ethnographic sample reported deciding on the career which would later form the basis for their college major. The selection of this career is usually associated with the presence of either a black, female, nonfamily member who becomes a positive role model, or a favorite school adult (always black and usually female) who gives specific encouragement to pursue a certain career. For example, one respondent mentioned hearing about a black business women who was politically prominent in her hometown. Several others mentioned black women they had met or heard about while working after school during high school. On the other hand, others mentioned the advice of black high school counselors and black teachers as sources of their choices.

The existence of a positive role model during high school serves to consolidate the career interests of a number of the black women in our group. Take Gina, for example. She recalls that she was motivated to go into a "business field" by a black "business" woman in her hometown. Gina does not know this woman personally, but says she wants to "be somebody" like this woman is. Gina herself went to work as a sales clerk in a clothing store during high school and says she developed a special interest in buying clothes there. Now she is majoring in Business Administration, with an emphasis in marketing. When asked if she took any steps to learn more about business careers during high school, she says no, except to take courses in business.

Advice from a favorite adult in high school is enough to consolidate career interests, too. Joy reported that her high school counselor told her that data processing was "high paying," "here to stay," and that "more and more blacks are going into it." Joy then took a class in data processing while in high school and decided to major in it at college. When asked if she had taken any steps to learn more about the field, she said no, although someone showed her an article which confirmed that data processing was "a good field to go into."

By the time they got to college, five of the twelve black women had settled on Business majors; one selected Physical Therapy and one selected Nursing (both "applied" Math/Science fields); two chose Education, two chose Criminal Justice and one chose Psychology. In college, majors are usually discussed in terms of how many courses are needed, how difficult they are, how much studying is required to make good grades and the cost to social activities.

Changes in plans for a major during college are few. Even though

these women may be doing poorly in the courses they need for their majors, in only one case did someone switch majors (and this, from Accounting to Data Processing, reportedly because more of her friends were in the Data Processing courses). (See Table 1-1 which shows the distribution of majors for the ethnographic sample.)

In part at least, this tendency not to change majors may be associated with the way the women at BU interpret feedback from college grades, courses, professors and the system in general. At BU, it is common to hear women place the blame for poor grades and course difficulties on professors or the system. For example, in describing one of her business courses, Gina says:

> He [the professor] is going so fast. He'll be going fast over chapters. I guess he be trying to get it all in. And then tests are so hard. And you can't pass, not unless you get a test from last year.
>
> Interviewer: What makes his tests so hard?
>
> Gina: They're just hard. Well, one thing: I don't have no book. And when he be going over, when he be going over those notes, he be going too fast and...I don't have no book to study by.
>
> Interviewer: Why didn't you get a book?
>
> Gina: I decided I wasn't gonna buy no book....Seriously, I bought two books this semester. The rest of them, I didn't buy 'em....I'm not gonna buy no book: spend all that money, go down there and stand all day, have to get somebody to take me to the bookstore...
>
> Interviewer: Isn't there a bookstore on campus?
>
> Gina: Yeah, but I ain't gonna buy no books over there: they cost too much.

In a later interview, Gina is talking about her accounting teacher:

> ...I hate accounting....[In] accounting, I have not done one thing. I can honestly say I learned more in accounting in high school. My high school teacher was a much better teacher. This man is terrible. I think he knows his stuff, but he just doesn't know how to tell us, or either he doesn't care.

When the interviewer asks Gina about her computer course, Gina says:

> I'm really upset at the fact that she [the teacher] gave me a C; which was fine because I earned a C, but she's not averaging our grades by points, she's averaging them by letter grades: like a C equals 2-point-something. And this girl; like I had...a high B and I had two high C's. Okay, this other girl in the class, she had a low C, and two B's and we both have a C [now]. She has a 1-point-something, and I have a 2.3. And we both have a C, and I...told her [the teacher] that that was not right...for me to get the same grade that she's [the other girl's] getting and I worked harder than she did. I think I deserve something better or she deserves something worse.

In another case, Joy describes her English class.

> When I first started my English lit. course, I thought it was a real hard class to pass, because of the teacher. But, after I went to the conference (cause, you know, any time we do a paper, we...go to a conference)...I went over there to talk to her, and she told me...that I was doing a lot better than I thought. I thought I was doing bad. And then, she asked me how I did last semester, and I told her that I did real good....And now, my grades are a lot better.

Dot provides another case in point, when she describes the results of her spring semester coursework.

> I dropped Algebra-Trig. I had to drop that because the teacher couldn't teach right. I took him again this summer. Don't you know, he still couldn't teach it. So, I took a different teacher and now I'm making grades I like to see.... I got a D in Health....check this out: though I love to pick up a health book and read the book and I can comprehend what's in the book. But see, this teacher, she was an alcoholic and she couldn't teach us....It didn't bother me because I hated the course to start with.

Interestingly, during college, it does not appear important to find a job related to one's career plans. Where many of these women had work experiences during high school which directly related to their career choice, few did during college. Neither did they mention this situation as a drawback. Instead, they focused simply on their need to earn spending money in college.

The tendency to stick with one's career choice despite negative feedback and poor teachers, as well as the lack of concern about obtaining hands-on job-related experience during college suggest that these women are focused primarily on the completion of a college degree program as the necessary prerequisite to future jobs in their chosen fields. In other words, these women seem to understand college primarily as a step toward a predetermined job, rather than a place to confirm, disconfirm or explore one's suitability for various careers.

Finally, in projecting forward, most of the black women in our sample say that they are pursuing their majors with the aim of obtaining a well-paying job which will allow them some financial independence after college. Most envision this financial independence as desirable so they can purchase cars, have their own apartments, and buy clothes. For most, marriage is also mentioned as an attractive future, although it is described as conflicting with the desire for financial independence. Thus, most say they plan to work for awhile after college before getting married and beginning a family.

Career Identity Histories of North Carolina University Women

In contrast to their black counterparts, the white students identity quite a range of career interests prior to high school. These are usually not linked to actual role models in the family or community but more often are "ideal types" such as fireman, doctor, writer, or scientist, who are known from television, books, or descriptions by significant others, e.g., a father who tells his daughter that she should be a scientist. From earliest memories through high school, most of the white women present several career interests simultaneously, including those promoted by relatives or significant others and those "ideal types" of interest to the

person herself. Interestingly (in comparison to the black group), the persons associated with various career interests are described as sources of information and encouragement regarding the career rather than people to model oneself after. Even when one of the women has a specific role model, e.g., a psychologist who is a published poet, other people continue to serve as sources of information about other career possibilities.

Like their black counterparts, decisions to pursue a field which later becomes one's college major seem to be finalized in high school. The decision is usually associated with a fairly long list of rewarding experiences in that field, e.g., good grades; success at special performances (singing, poetry, writing contests); encouragement by one or more people, including but not limited to school personnel; selection into an elite group on the basis of ability in the field; success at an afterschool job in the field and the absence of negative feedback.

By the time they reached college, five of the women in the white group had selected pure Math or Science fields, and two had selected applied Math/Science fields (Actuary and Physical Therapy). Journalism, Foreign Language, Music and Psychology had each been selected by one person.

Unlike their black counterparts, whites, once in college, seem to view changing majors as acceptable, even expected. Among the eleven, five changed their majors (see Table 1-1). All the white women discussed other fields in such a way as to indicate (1) that they might just as well have majored there (e.g., they were continuing coursework in these fields) and (2) that they were not losing interest nor entirely closing off options for a future in these other fields. One woman (not one of the five who "changed" majors) declared a double major and at least one other would have done so

if it had not meant the expense of another year of college.

Further, college courses are described as chances to evaluate one's choice of a major as well as one's interests, and courses are evaluated in terms of both grades and interest. In discussing which courses to take, these women favor courses which are interesting and in which good grades are probable. Correspondingly, decisions to switch majors are usually described as resulting from poor grades and lack of interest. Bonnie, for example, describes the political science course she is taking.

> It is really interesting...the book is great--I like it alot...it's talking about how politics can be either really funny or really sad...this is the funny part [we're doing now]....It's [the book's] real well-written and I like it ...and then, the poli sci teacher I've got, he's real interesting...

In subsequent interviews, Bonnie says that she is making A's in political science and is thinking of majoring in it. Perhaps she would have done this, but her boyfriend convinced her that she didn't have the personality to be a politician.

In another case, the researcher describes Sandy's reaction after a chemistry test (Sandy had previously been talking about majoring in chemistry rather than physics.)

> Sandy started telling Barb [her friend] about how poorly she [Sandy] did on the chemistry test she had taken today. Sandy said she didn't think that she was going to major in chem now. She said she didn't like it anymore.

Later, after she and Barb go over to visit a couple of male friends in their dorm room, Sandy picks up this theme again.

> Sandy announced that she needed another major since she was pretty sure she was not going to major in chem anymore--after today's test. She said she wanted something with only a few social science requirements. She explained that she didn't like social science because you always went over the same things....David [one of the male friends] said that he loved social sciences. Sandy responded, 'oh, yuk!' and said

> that she had all she wanted in high school. Then Sandy said that she might like to major in computer science, that she would be taking a course in it next fall. David said that she needed to take a course in computer science before deciding to major in it, indicating that the course might change her mind.

In contrast to the BU women then, women at NCU seem to interpret feedback from classes and professors as indicative of one's suitability for various careers. Where grades and interest in courses are not high, searches for more "suitable" alternatives are likely.

Finally, in projecting into the future, women in the white group want their careers to be interesting, challenging, and of benefit to others. (Unlike the black group, the white women tend to conceive of jobs as including the aspect of service to others, while the black women see service as taking place outside the job itself.) Among whites, monetary rewards are seldom mentioned. Further, white women rarely mention marriage or having children as an aspect of their futures. When these things are mentioned, they are described as subsequent to establishing oneself in a career. Thus, like their black peers, members of the white group expect to get a job when they finished college.

The Survey Data

Questions on the survey corroborated the ethnographic work in general by showing that career identities are acquired, modified, and sometimes dropped both before and during college. This is especially clear with respect to math/science careers.

Tables 3-1 and 3-2 indicate that a majority of the women who reported an interest in math or science became aware of this interest before coming to college. This is so even when interest is assessed by the criterion of thinking of majoring in one of these fields. Some 15% of the 179 BU

respondents gave some point in college as constituting their first instance of interest in math or science in contrast to 70% of the sample which reported becoming interested in math or science at some point before entering college. The corresponding NCU figures are 6% and 85%, respectively. These figures suggest that, for the most part, women bring these identities and interests to college instead of acquiring them once they become college students.

It is also clear that many of the women who claimed to have once had an interest in math or science had, by the time of the survey, either discarded this interest or allowed it to atrophy or become dormant. Roughly speaking, Table 3-1 shows that 85% of the BU sample and 90% of the NCU sample reported an interest in math or science at some point in their lives. Nonetheless, by the time they entered college, 83% of the BU sample and 65% of the NCU sample had opted out of math/science careers (see Table 3-3). Using a more stringent criterion, even more had dropped out: upon entering college, only 4% of the BU sample and 22% of the NCU samples chose a math or science major (see Table 3-5).

The point underlined by the survey results is that women bring to college a history of experience, performance, and effort; a resulting set of self attributions about their proclivities and talents; and a set of beliefs and values regarding various majors. These values, beliefs, and self attributions appear to constitute an inertia, a tendency in particular directions. In our sample, typical directions do not often point to math or science career paths. In effect, the process of deciding what to major in is one of gradually elaborating, modifying and sometimes discarding <u>former</u> identities as opposed to searching with an "open mind" among the many possible avenues of opportunities that are available. As a consequence, opportunities for math or science careers are not often seized.

TABLE 3-1: POINT AT WHICH WOMEN BECAME INTERESTED IN MATH/SCIENCE (VAR308) AND FIRST POINT AT WHICH WOMEN SERIOUSLY CONSIDERED MAJORING IN MATH/SCIENCE (VAR310) BY UNIVERSITY

	Freq. and Cum. Percentage-Interest		Freq. and Cum. Percentage-Major	
	BU (N=179)	NCU (N=183)	BU (N=179)	NCU (N=183)
Before Elementary School	6 (3.4%)	16 (8.7%)	- (0%)	- (0%)
During Elementary School	27 (18.4)	49 (35.5)	4 (2.2)	5 (2.7)
During 7th & 8th Grades	45 (43.6)	46 (60.7)	5 (5.0)	22 (14.8)
During High School	37 (64.3)	41 (83.1)	11 (11.2)	43 (38.3)
Between High School & Frosh Year of College	12 (71.0)	3 (84.7)	8 (15.6)	10 (43.7)
When first Entered College	7 (74.9)	3 (86.3)	7 (19.6)	6 (47.0)
During Freshman Year	8 (79.3)	6 (89.6)	8 (24.0)	4 (49.2)
Between Frosh & Soph Years	7 (83.2)	2 (90.7)	2 (25.1)	1 (49.7)
During Sophomore Year	6 (86.6)	- (90.7)	3 (26.8)	5 (52.5)
Never	24 (100.0)	17 (100.0)	131 (100.0)	87 (100.0)

TABLE 3-2: SUMMARY OF POINT AT WHICH WOMEN WITH A MATH/SCIENCE INTEREST BECAME INTERESTED (VAR308) AND POINT AT WHICH WOMEN WHO SERIOUSLY CONSIDERED MAJORING IN MATH/SCIENCE FIRST DID SO (VAR310) BY UNIVERSITY

	Freq. and Cum. Percentage-Interest		Freq. and Cum. Percentage-Major	
	BU (N=155)*	NCU (N=166)*	BU (N=48)*	NCU (N=96)*
Before Entering College	127 (81.9%)	155 (93.4%)	28 (58.3%)	80 (83.3%)
Freshman Year	22 (96.1)	11 (100.0)	17 (93.8)	11 (94.8)
Sophomore Year	6 (100.0)	0 (100.0)	3 (100.0)	5 (100.0)

*Twenty-four (24) BU students and 17 NCU students said they had never been interested in math or science. One hundred and thirty one (131) BU students and 87 NCU students said they had never seriously considered majoring in math or science.

TABLE 3-3: POINT AT WHICH WOMEN DROP OUT OF MATH/SCIENCE CAREERS (VAR468) BY UNIVERSITY

	Frequency and Cumulative Percentage	Frequency and Cumulative Percentage
	BU (N=167)*	NCU (N=159)*
Never Interested	24 (14.4%)	17 (10.7%)
Interested, but Took No Action	17 (24.6)	8 (15.7)
Early Dropout (Before High School)	92 (79.6)	64 (56.0)
High School Dropout	6 (83.2)	14 (64.8)
Frosh Dropout	14 (92.6)	31 (84.3)
Post-Frosh Dropout	5 (94.6)**	4 (86.8)**

* These percentages are somewhat misleading. Aside from those with missing data, eight respondents from BU and twenty-two from NCU were dropped from this analysis because they gave responses on VAR311 which would have classified them as "continuers", although their present majors do not fall into the math/science category. Of the BU students who misclassified themselves (according to our categories), 5 were in math/science related majors and 3 in non- math/science majors; of the NCU students, 21 were in math/science related majors and 1 in a non-math/science major.

**Only 5.4% of the Bradford University sample and 13.2% of the North Carolina University sample have continued with a math/science career.

TABLE 3-4: POINT AT WHICH WOMEN DROPPED PLANS FOR MAJORING IN MATH OR SCIENCE (VAR311) BY UNIVERSITY

	Frequency and Cumulative Percentage	
	BU (N=171)*	NCU (N=159)*
Never Planned on M/S Major: **	137 (80.1%)	87 (54.7%)
Planned ***, but Dropped Idea for M/S Major:		
Before Entering College	6 (83.6)	15 (64.2)
Freshman Year	14 (91.8)	32 (84.3)
Sophomore Year	5 (94.7)	4 (86.8)
Still Majoring in M/S:	9 (100.0)	21 (100.0)

*In the pilot test of the survey instrument, it was noted that women tended to say they were math/science majors if they were majoring in fields that demand coursework in math and/or science, including business and health fields, for example. Instructions were added to clarify the categories (see Appendix I-1, Q46 and Q49). Despite the instructions, 8 BU and 22 NCU survey respondents said they were still majoring in math or science when in fact they were majoring in a math/science-related major, or in a few cases - a non-math/science major. See footnote for Table 3-3. It appears that the women in the survey did not easily differentiate "pure" from "applied" math/science majors.

**M/S refers to Math or Science.

***"Plans" does not necessarily imply that an M/S major was actually declared.

TABLE 3-5: ENTERING AND PRESENT MAJOR FOR BU AND NCU SAMPLES

	BU (N=176) Entering	Present	NCU (N=179) Entering	Present
Arts and Humanities	7.4%	6.8%	16.1%	14.0%
Education	20.5%	15.3%	3.9%	10.6%
Professional (other than Pharmacy, Pre-dent, Pre-med, Pre-vet)	0.6%	0.6%	1.1%	2.2%
Social Science	19.9%	22.2%	5.6%	14.0%
Other Fields (other than Nursing, Therapy, and Undecided)	5.1%	10.8%	3.9%	6.7%
Business	29.0%	29.0%	14.4%	19.6%
Engineering	-	-	-	-
Computer Science	-	-	3.9%	0.6%
Pharmacy, Pre-dent, Pre-med, Pre-vet	0.6%	0.6%	16.7%	12.3%
Nursing	9.7%	8.5%	2.2%	3.9%
Therapy	1.1%	1.1%	2.8%	3.9%
Biological Science	2.3%	2.8%	12.2%	5.6%
Physical Science	1.7%	2.3%	10.0%	6.2%
Undecided	2.3%	-	7.2%	0.6%

THE PROCESS OF DISCARDING CAREER IDENTITIES AND DECIDING ON A NEW DIRECTION

As judged by comparing present major to first major, the survey results show that 33.5% of the BU women and 50.8% of the NCU women changed their majors during the course of their first one and a half years of college (see Table 3-7 which summarizes Table 3-6). In the ethnographic sample, 8.3% (N=1) of the BU women and 45.5% (N=5) of the NCU women changed their majors.

In this section, we will first consider some of the reasons women gave for changing their majors. Then, we make some observations from the ethnographic data about the process of changing majors.

The first example is from Aggie, who is in the process of changing her major from physical therapy to nursing.

> ...[I] was in physical therapy and I changed it to nursing for several reasons, the main one being very selfish. This girl in my suite is a PT major and she said, 'You know, you really have to have a high average, like a 3.5, or they don't even really consider your application [to get into the PT program]' and that's like all As or maybe a B. I just don't have enough dedication or whatever to put that much time in.... that's all she [the suitemate in PT] does. She gets to the point where she just beats her head against the wall, she's so tired of studying. I just don't think anything's worth that. ...I just don't think it's worth it to me....I did some volunteer work over Christmas at the hospital...and I've helped at the nurses' station, and talking to my cousin who's a nurse and a friend of mine at church is a nurse... maybe that's just more suited for me. It's still rigorous as far as good grades are concerned, but a 3.0 is a little bit more within my reach than a 3.5.

Up to this point in the discussion, Aggie seems quite logical. However, when the researcher asks for clarification of the reasons why nursing is more suitable, Aggie's response is:

> ...physical therapy, I didn't realize that it entailed so much as it does. Like, one thing, I don't think I could ever learn to stomach it...they deal with burn victims... this one little girl came in and she had been burned....And

TABLE 3-6: PRESENT MAJOR BY FIRST MAJOR BY UNIVERSITY

	First Major							
	Undecided		Non-M/S Related		M/S Related		M/S	
	BU (N=7)	NCU (N=16)	BU (N=94)	NCU (N=55)	BU (N=71)	NCU (N=72)	BU (N=7)	NCU (N=40)
Present Major								
Undecided	0.00	0.00	0.00	0.00	0.00	1.39	0.00	2.50
Non M/S* Related	28.6	81.25	87.23	81.82	18.31	20.83	14.29	32.50
M/S Related	57.1	18.75	11.70	14.55	77.46	76.39	14.29	20.00
M/S	14.3	0.00	1.06	3.64	4.23	1.39	71.43	45.00

*M/S refers to math/science.

TABLE 3-7: TYPE OF CHANGES IN MAJOR BY UNIVERSITY

	BU (N=176)	NCU (N=179)
TYPE OF CHANGE		
No change*	66.5% (N=117)	49.2% (N=88)
Changed within Main Categories	14.2% (N=25)	16.8% (N=30)
Non-M/S**	N=23	N=18
M/S Related	N=2	N=10
M/S	N=0	N=2
Changed Between Non-M/S and M/S Related	15.9% (N=28)	20.1% (N=36)
Into M/S Related from Undecided	N=2	N=1
Into M/S Related from Non-M/S	N=11	N=8
Into Non-M/S from Undecided	N=2	N=12
Into Non-M/S from M/S Related	N=13	N=15
Changed Into M/S from:	2.3% (N=4)	1.7% (N=3)
Non-M/S	N=1	N=2
M/S Related	N=3	N=1
Changed Out of M/S into:	1.1% (N=2)	12.3% (N=22)
Undecided	N=0	N=1
Non-M/S	N=1	N=13
M/S Related	N=1	N=8

*That is, no change within the 13 categories into which the 78 different majors were grouped including, for example, education, business, and nursing.

**M/S refers to math/science.

> I just couldn't handle that at all; and I think, plus the fact that she was a small child--kids really get to me.
>
> Interviewer: Don't nurses do that kind of thing too?
>
> Aggie: But not so much, like the physical therapist will peel the scabs off, then put them [the patients] in the whirlpool and ...no matter where you went in that hospital, you could hear that little girl scream. I just couldn't take it...

In another example, Bonnie enters college with a major in music and quickly decides against pursuing it. During an observation, she explains the problem with music:

> Music theory is like math, like doing math problems; it s hard to study alot because you have to know principles in order to work the problems...it's a hard major.

Next Bonnie considers political science as a major. She explains that this major is also being pursued by her boyfriend, whom she is planning to marry eventually. When her boyfriend declares that Bonnie isn't "tough" enough to be a politician, Bonnie considers speech pathology. She explains her reasons as follows:

> I checked into speech pathology....This girl from across the hall's majoring in it. And I looked at her books and some pamphlets and things and I'm gonna check into that and if that doesn't work out, I'll probably just keep looking around over there in the medical department. I don't want to take the kind of stuff that you have to take chemistry for...like speech pathology, you can work with the people and you [can] take psych and other courses like that.
>
> Interviewer: What's the problem with chemistry?
>
> Bonnie: I just don't like it. I'd rather not take it if I can get out of it....I mean, it's interesting but...I'm terrible. I never catch on to things....One time [in high school] I poured acid...all down my pants and it ate a hole in them. All kinds of junk like that. So, I'm gonna take astronomy for my lab.

Eventually, Bonnie declares speech pathology as her major.

In another instance, Joy is considering whether to change from accounting to nursing. She says of each:

> Like accounting, it was so much work...and I thought maybe I'd like to be a nurse...[But] thinking about chemistry and stuff, that always sort of bugged me. I started thinking [more] about that.

Joy did not change her major.

In yet another instance, Dot considers changing her major from data processing to sociology (social work) in the spring of her freshman year,

> "...cause I like helping people (I like computers too)... but I like working with old folks and they really interest me."

Dot realizes that going into a career in social work would conflict with another desire to make a lot of money. Thus, at the peak of her interest in social work, Dot delineates a plan to pursue a double major in Business Administration (data processing) and sociology. She believes that she can complete this double major in five years (despite the fact that she did not pass an algebra course last semester and is having considerable difficulty passing all of her courses this semester), and then follow-up her B.A. with a graduate program in sociology. Her final reason for choosing a helping profession is based on a pessimistic view of world affairs:

> Everything in the world is turning to a crash...all the countries and things are fighting...people are at each other's throats. We need to pull together and work as one....

Then, Dot goes on to add:

> I think I'd be in better shape [with a double major] because, you know, when I get one job, I can get another one. If I can't [get a job] in business one place, I can get a job in sociology.

Finally, still in the same interview and only minutes later, Dot says that she is planning to marry her current boyfriend during the following semester.

> I wanna get married. I wanna live with Kevin [her boyfriend]. I wanna have a car. I want him and I to each have a car. I want him to work and I wanna work on a parttime job; I want to have a house...Then I'll be able to have babies!

The examples from the ethnographic data reveal that ideas about the rewards to be obtained from a particular major are often idiosyncratic and somewhat poorly informed. The same can be said for the interpretations women give to feedback from grades, conversations with professors, or experiences with coursework, when assessing their progress in or suitability for a major.

Often, in fact, women draw conclusions about themselves and their work on their own, without consulting others. Although college personnel are available to help answer questions about programs of study, to provide reasons for pursuing such programs, and to interpret the meaning of feedback about one's performance, they are not often consulted. The case of Sandy who visited a campus therapist (see Chap. II) was one exception. From our research, it also appears that while women do consult informal peer experts on matters of dating, for example, such peer experts are not usually consulted for help in interpreting feedback regarding coursework or a particular major. Instead, as was described in detail in Chapter II, sources of assistance with problems about one's course of study are boyfriends, parents, and, at NCU more than BU, female friends, particularly dormmates. In terms of consulting others about one's course of study, in short, there is a degree to which "the blind lead the blind."

Although the present study does not provide the data to assess students' suitability for particular majors and vice versa, the system by which students decide to discard career identities does not, on the face of it, seem to be particularly reliable or valid. It may well be that students drop majors for unfounded or ill-founded reasons. This is significant in relation to the retention of women in math/science careers since, for women, dropping majors tends to result in a movement into non-math/science majors.

SELECTING FROM AMONG CAREER IDENTITIES: THE DROP-DOWN PATTERN IN COLLEGE

Although women bring career interests to college with them, their choice of which one to focus on is not necessarily firm, especially for the NCU students. Their enthusiasm for a particular major may wax and wane. This pattern is particularly evident in the case of Bernadette who has been introduced in Chapter II.

When Bernadette enters college, she has interests in several different careers, all of which are associated with people and friends she has known in the past. Her father has urged her to pursue a science career because of the good job prospects there; her mother has encouraged her to pursue some career such as nutrition or environmental science, which will allow her to be an activist as well as a scholar; her job experiences during the summer between high school and college sparked an interest in natural resource conservation; among her friends from high school, Bernadette has learned to value her artistic abilities.

At college, Bernadette declares a major in botany, but says, in the first interview, that she is thinking about pursuing a double major by adding on art. She enrolls in courses in biology, math, German, art, English composition, and physical education (the last two are required).

In describing herself in the first interviews, Bernadette stresses her interest in environmental issues (which she links to botany) and in art, both of which were especially prominent in her immediate pre-college life. As the year progresses, however, Bernadette talks of adding German and dropping art as the second of her two majors. She says that she really likes her German class and she reasons that knowledge of German will make it easier for her to travel to Germany--now, a goal. On the other hand, she explains, she does not need to go to college to pursue her art. As the

study nears completion, Bernadette rarely has anything to say about botany, although she is still officially majoring in it. In fact, she says that she dislikes her coursework in botany. In contrast, she speaks positively and in some detail about her German and art courses. She now appears firmly committed to traveling to Germany after college and to pursuing art as the field she really enjoys. She even mentions the possibility of majoring solely in art but worries that her father will disapprove.

From the survey results, the freshman year appears to be an active year for entertaining considerations of majoring in interests that had been somewhat dormant. The sophomore year does not show this pattern. Table 3-2, for example, reveals that 17 BU women first seriously considered majoring in math or science fields in their freshman year while only 3 reported doing so in their sophomore year. A similar pattern can be noted for NCU: 11 women said they first seriously considered majoring in a math/science major during their first year of college while only 5 reported that majoring in a math/science major first occurred to them in their second year of college. Comparable figures for consideration of math/science-related majors, such as those in business and pharmacy, for example, show the same trend (see Appendix I-1, Q49). Thirty-eight (38) BU respondents and 27 NCU respondents said they first seriously considered majoring in a math/science-related major in their freshman year as contrasted with 7 BU and 6 NCU women who said they first seriously thought about such a major in their sophomore year. Since the university encourages and eventually requires the choice of a major, this pattern of active consideration of dormant or, in some cases, new interests in the freshman year is not difficult to understand.

Serious first-time consideration of math/science and math/science-related

majors may also be affected by other aspects of university policy which seem to bring about what might be called a "drop-down" pattern with regard to math/science majors. The university allows students the freedom to drop a major, but it constrains what new major they may undertake by entrance requirements (e.g., entering physical therapy majors are required to have certain grade point averages) and required course sequences (e.g., the Business school requires completion of certain courses for admission). Some majors, such as math, become harder and harder or more costly to enter the longer one delays. Perhaps as a result, those who change their majors are likely to go into fields that have fewer such requirements and are usually portrayed in campus culture as less demanding intellectually. Women in our sample do reveal this "drop down" trend though it is less evident at BU.

Although it is possible to decide to pursue interests in math and science after one has been in college for awhile, this does not appear to happen to any extent during the first year and a half. In fact, if we compare present major to first major (see Tables 3-6, 3-7, and 3-8), we see that women in our overall sample tended to drop out of math/science fields and into related or non-related fields, not the reverse. For the BU sample, there was some movement into math/science majors, but quite the reverse was true for NCU. Table 3-7 indicates that 2.3% of the BU sample had changed into a math/science major since they entered college, while 1.1% had changed out of a math/science major for a net increase of 1.2%, two people. For NCU, there was a net decline. One and seven tenths of a percent (1.7%) changed into math/science majors while 12.3% dropped out of math/science majors for a net decrease of 10.6% of the sample, or 19 women!

TABLE 3-8: PRESENT MAJOR OF WOMEN ENTERING UNIVERSITY WITH MATH/SCIENCE MAJORS

	BU		NCU	
	First Major		First Major	
	Biological Science (N=4)	Physical Science (N=3)	Biological Science (N=22)	Physical Science (N=18)
Present Major				
Arts & Humanities	0.00%	0.00%	13.64%	0.00%
Education	0.00	0.00	4.55	0.00
Professional	0.00	0.00	9.09	0.00
Social Science	0.00	0.00	9.09	22.22
Other Fields	25.00	0.00	4.55	0.00
Business	0.00	0.00	0.00	11.11
Engineering	0.00	0.00	0.00	0.00
Computer Science	0.00	0.00	0.00	0.00
Health Sciences	0.00	0.00	9.09	0.00
Nursing	0.00	0.00	9.09	0.00
Therapy	0.00	33.33	9.09	0.00
Biological Science	75.00	0.00	31.82	11.11
Physical Science	0.00	66.67	0.00	50.00
Undecided	0.00	0.00	0.00	5.56

Looking in more detail at patterns of change in major: of those who change their majors, roughly 70% of each sample either (1) change from one non-math/science major to another; (2) move from a math/science major to a math/science-related or a non-math/science major; or (3) move from a math/science-related major to a non-math/science major (see Table 3-9). In other words, women who changed their majors tended to move toward majors with less math/science than their previous major. If our previous point about the questionable reliability and validity of the decision-making process is correct, then it may be that the women in our sample tended to drop majors for which they may have been suited. Further, they may have picked new majors which are more traditional for women (in the sense that they have less to do with math and/or science than the previous major) for ill-founded reasons.

In summary, what we have shown in this section is that changes in major are more likely to result either in women staying in or moving toward non-math/science majors. Given this finding at this point in the study, we wondered what research strategy would best help us understand how to increase the number of women math/science majors. One strategy for learning how to increase the number of math/science majors would be to further study those who change their majors from a non-math/science or math/science-related major to a math/science major in hopes of identifying factors encouraging such changes. As already pointed out however, women who move into math/science majors in college are few in number. In the survey sample, we located 4 women, (2.3%), among the sample from Bradford University, and 3, (1.7%), from among the North Carolina University sample, who moved from non-math/science or math/science-related into math/science majors. No one in the ethnographic sample made such a move.

TABLE 3-9: DIRECTION IN CHANGE IN MAJOR BY UNIVERSITY

	BU (N=55)*	NCU (N=77)*
Predicted Direction		
From M/S** to M/S Related or Non-M/S Majors	2 (3.6%)	21 (27.3%)
From M/S Related to Non-M/S Majors	13 (23.6)	15 (19.5)
From Non-M/S Majors to Another Non-M/S Major	23 (41.8)	18 (23.4)
Counter to Predicted Direction		
Changes Within the M/S and M/S-Related Categories	2 (3.6)	12 (15.6)
From M/S-Related to M/S	3 (5.5)	1 (1.3)
From Non-M/S-Related to M/S-Related or M/S Major	12 (21.8)	10 (13.0)

*For the BU sample, 117 did not change their major while 4 listed either their first or present major as undecided. For the NCU sample, the figures are 88 and 14, respectively.

**M/S refers to Math/Science.

A second strategy--the one that we have pursued--is to focus on slowing women's attrition from math/science careers. On the basis of figures from our study, the first two years of college take a high toll on women in the area of math and science. In all, 24 women (6.6% of the total sample) dropped out of math/science majors over the course of their first three semesters in college, leaving 30 women (8.3% of the total sample) in those majors at the end of the first semester of the sophomore year (see Table 3-5). In other words, there was an attrition rate of approximately 45% for women in math/science majors.

To pursue this strategy, we attempted to identify factors which affect continuation in a chosen major or conversely, factors which influence women to abandon a major. From the ethnographic work, similar factors seemed relevant regardless of whether the major was a math/science major or some other major. Thus, we were able to develop a "Continuation Model" to predict "commitment to pursue training in chosen major". The development and testing of this model is described in the next section.*

THE CONTINUATION MODEL

The ethnographic data suggested a number of possible sources of discomfort with current plans to pursue the chosen major. While a particular woman tends to emphasize only one or two reasons for changing her major, we suspected that decreased commitment to pursuing training in the chosen major might be a result of the operation of a number of factors, the ones a person cites being merely those that are most evident or most easily admitted.

---

*As was pointed out above, BU students tend to be clearer about their goals and consequently to change their majors less frequently than NCU students. They also tend to choose math/science majors at a much lower rate than NCU students, and they report dropping math/science interests earlier than NCU students (see Table 3-3). Especially for BU students, it seems to be the case that efforts to keep women in Math/Science careers should be directed to the pre-college phases of these women's careers.

From the preliminary analysis of the ethnographic data, we devised a "Continuation Model," a multivariate model which included many of the variables identified in the ethnographic phase as 1) affecting commitment to pursuing training in the chosen major and 2) having some possible relationship to peer influence. Questions were included in the survey to measure these variables. This section describes the model and indicates how well the model fit the data that were subsequently collected. The last section is an interpretation of the findings.

The Main Dependent Variable--"Commitment to Pursue Chosen Major"

Each survey respondent was asked to estimate the likelihood that she would continue with her present major and that she would return to school next year:

> Q10: All things considered, how sure are you that you will be continuing in college next year?
>
> _____% sure
> (put a number between 0 and 100)
>
> Q11: All things considered, how sure are you that you will continue with your present major?
>
> _____% sure
> (put a number between 0 and 100)

The estimated percentages were multiplied together and then multiplied by .01, yielding a figure representing the respondent's commitment to pursuing training in her present major (hereafter called "commitment to chosen major"). Table 3-10 gives the means and standard deviations for each estimate by university. (See Appendix I-1 for more information on the computation of this variable - VAR358.)

The survey data support a conclusion drawn from the ethnographic data, namely: the BU women tend to be clearer about and more committed to their

TABLE 3-10: MEAN COMMITMENT TO PRESENT MAJOR BY UNIVERSITY

	BU	NCU
a. Respondent's Estimate of Her Commitment to Continuing College Next Year (Range 0-100)	93.92* (s.d.=13.37) (Range 10-100) (N=179)	95.74 (s.d.=11.62) (Range 25-100) (N=183)
b. Respondent's Estimate of Her Commitment to Continuing With Her Present Major (Range 0-100)	93.68* (s.d.=12.19) (Range 10-100) (N=179)	82.03 (s.d.=20.26) (Range 0-100) (N=182)
c. Respondent's Commitment to Pursuing Training in Her Chosen Major ("Commitment to Chosen Major") ("a" x "b" x .01)	88.44* (s.d.=17.68) (Range 4.5-100) (N=179)	79.10 (s.d.=22.45) (Range 0-100) (N=182)

*The maximum possible value is "100"; the minimum "0".

choice of major than the NCU women. Thus, although BU women's average estimate of their likelihood of continuing in college next year is slightly lower than that of the NCU women, the mean commitment to pursuing present major is roughly 10 points higher for BU versus NCU women.

Independent Variables

Table 3-11 lists the independent variables posited in the continuation model to have some direct effect on "commitment to pursue chosen major." Figure 3-1 is a schematic drawing of the Model. (See also Figures 3-2, 3-3.)

For the Bradford University sample, it will be noted that six variables had a small, but significant ($p \leq .08$) effect on commitment to pursue chosen major. The multiple correlation coefficient of .591 proved to be significant at the .0001 level. The R^2 of .349 indicates that roughly 35% of the variance is "explained" by the Model.

In some respects, the NCU sample provided a contrast to the BU sample. Although the model "explained" approximately 10% more variance for NCU ($R^2 = .457$) than it did for BU (the R of .676 was significant at the .0001 level), only two variables yielded significant "b" values. The six significant variables from the BU sample are listed below with the two found significant for the NCU sample:

	BU	NCU
Validity of the Cost of Education	x	-
Legitimacy of the Institution's Standards	x	-
Comparative Evaluation of Present Major	x	x
Financial Difficulties	x	-
Competing Peer Identities/Rewards	x	-
Energy Available for Studies	x	x

TABLE 3-11: OBSERVED PATH COEFFICIENTS FOR CONTINUATION MODEL FOR "COMMITMENT TO CHOSEN MAJOR" BY UNIVERSITY

VARIABLES POSITED TO DIRECTLY AFFECT COMMITMENT TO CHOSEN MAJOR (VAR358)*

	BU	NCU
Validity of the Costs of an Education (VAR367)	.175** (p=.06)	-.012 (NS)
Legitimacy of the Institution's Standards (VAR360)	.166 (p=.06)	-.064 (NS)
Attachment to Rewards/Identities Associated with the Major (VAR361)	.159 (NS)	.075 (NS)
Perceived Costs to Get Desired Ends from Major (VAR362)	.042 (NS)	.019 (NS)
Assessment of One's Ability to Succeed in Chosen Major/Career (VAR370)	-.002 (NS)	-.034 (NS)
Comparative Evaluation of Present Major (VAR12)	.278 (p=.01)	.527 (p=.0001)
Financial Difficulties (VAR374)	-.158 (p=.07)	-.030 (NS)
Competing Peer Identities/Rewards (VAR388)	-.187 (p=.08)	.006 (NS)
Importance of Hometown Activities and Family (VAR377)	-.091 (NS)	.057 (NS)
Energy Available for Studies (VAR553)	.173 (p=.05)	.151 (p=.03)
Direct Help with Coursework (VAR570)	.041 (NS)	.009 (NS)
Indirect Help (Happiness) from Others (VAR571)	.155 (NS)	.124 (NS)

* Computations were carried out by the SYSREG procedure for a block recursive model--SAS. The treatment of missing variables is to eliminate the entire case if one item is missing. This had a drastic effect for the BU sample where 73 respondents out of 179 were eliminated. For NCU, 29 cases out of 183 were eliminated. Detailed information about variable construction is given in Appendix I-1.

** The top figure is the standardized "b" value or path coefficient. The figure in parentheses is the probability of the parameter estimate of the "b" value. Probabilities greater than .10 are not listed.

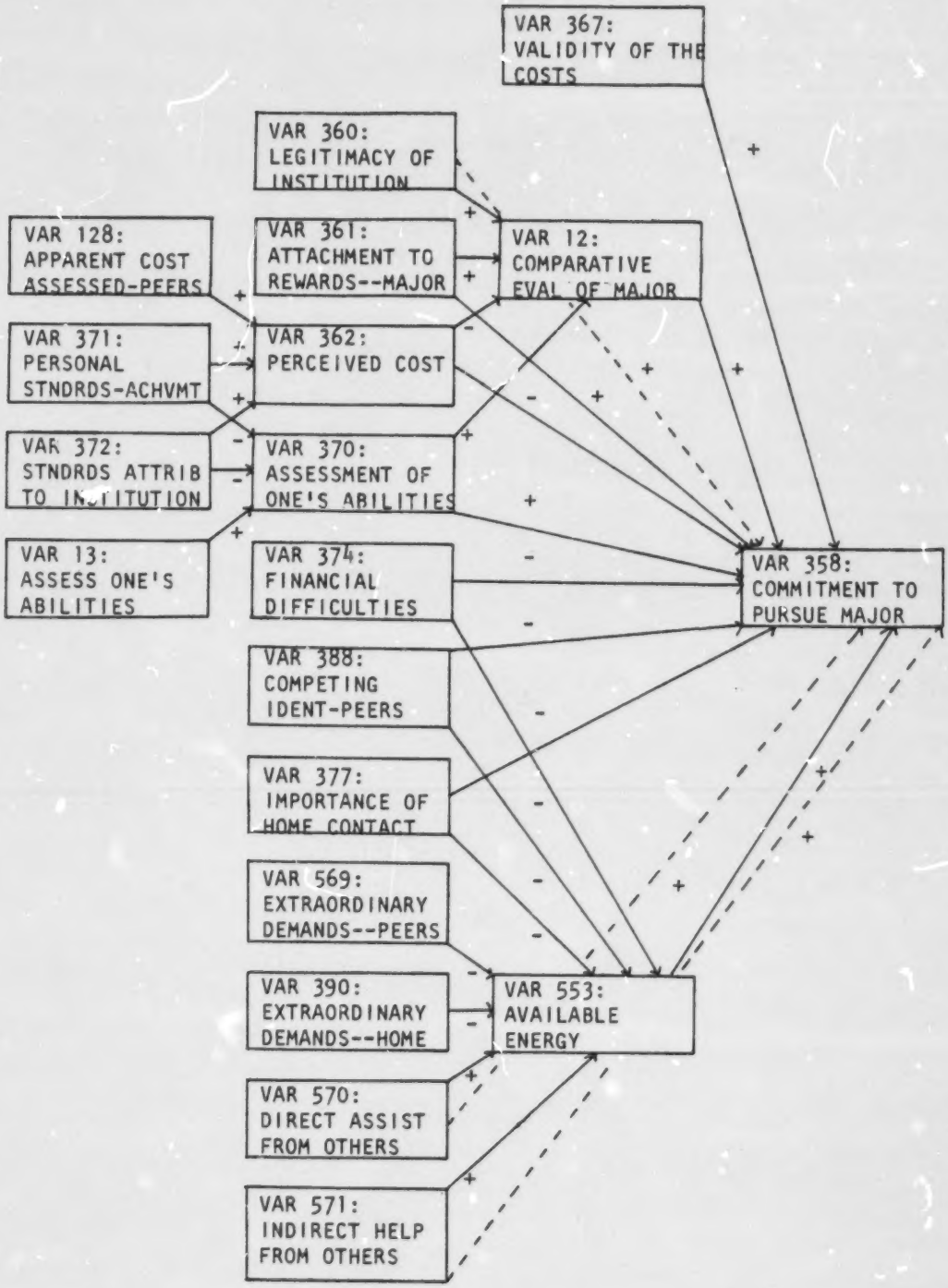
VAR 367: VALIDITY OF THE COSTS
VAR 360: LEGITIMACY OF INSTITUTION
VAR 128: APPARENT COST ASSESSED-PEERS
VAR 361: ATTACHMENT TO REWARDS--MAJOR
VAR 12: COMPARATIVE EVAL OF MAJOR
VAR 371: PERSONAL STNDRDS-ACHVMT
VAR 362: PERCEIVED COST
VAR 372: STNDRDS ATTRIB TO INSTITUTION
VAR 370: ASSESSMENT OF ONE'S ABILITIES
VAR 13: ASSESS ONE'S ABILITIES
VAR 374: FINANCIAL DIFFICULTIES
VAR 358: COMMITMENT TO PURSUE MAJOR
VAR 388: COMPETING IDENT-PEERS
VAR 377: IMPORTANCE OF HOME CONTACT
VAR 569: EXTRAORDINARY DEMANDS--PEERS
VAR 390: EXTRAORDINARY DEMANDS--HOME
VAR 553: AVAILABLE ENERGY
VAR 570: DIRECT ASSIST FROM OTHERS
VAR 571: INDIRECT HELP FROM OTHERS

FIGURE 3-1: CONTINUATION MODEL

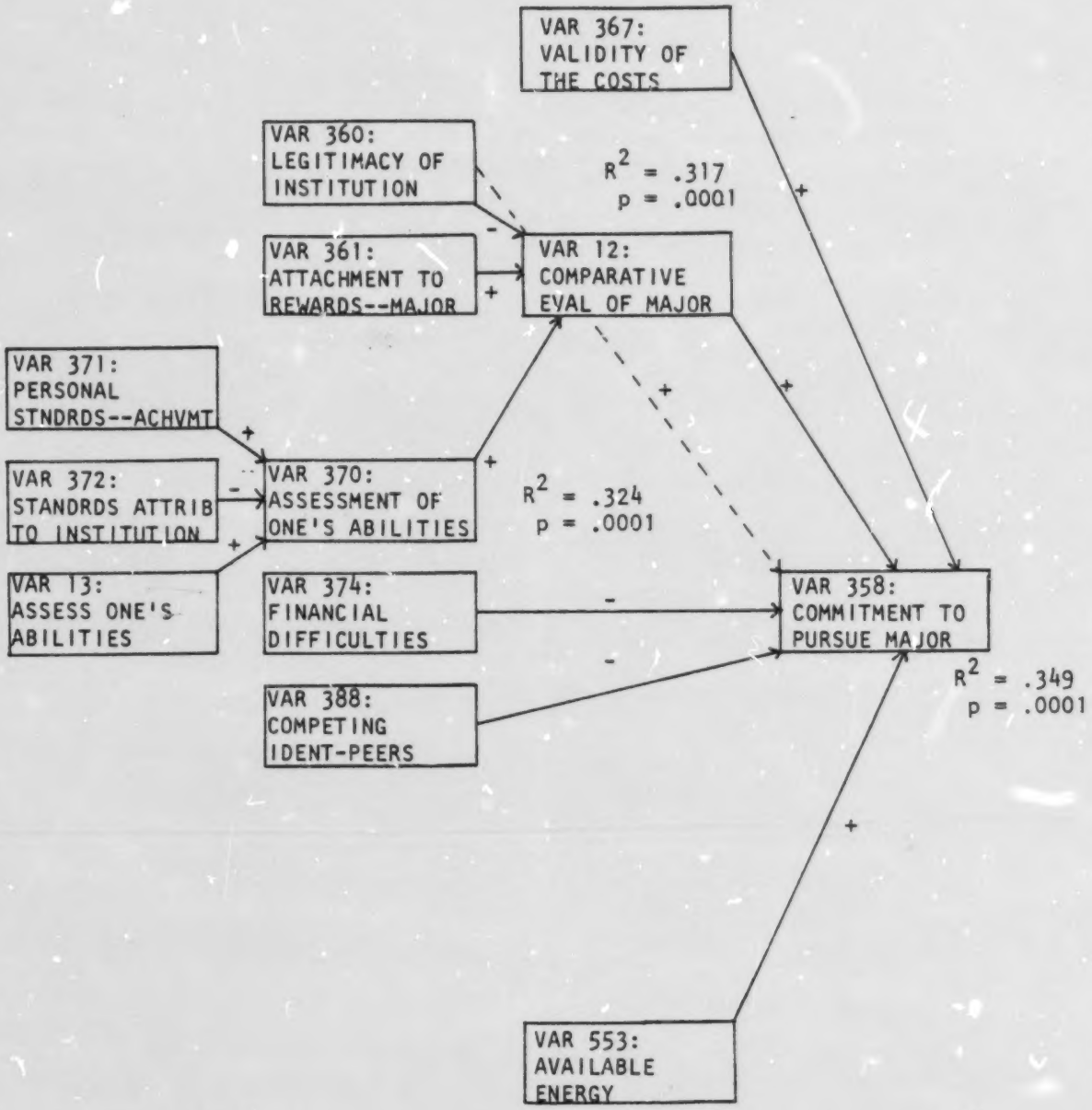

FIGURE 3-2: OBSERVED RESULTS--BRADFORD UNIVERSITY--CONTINUATION MODEL

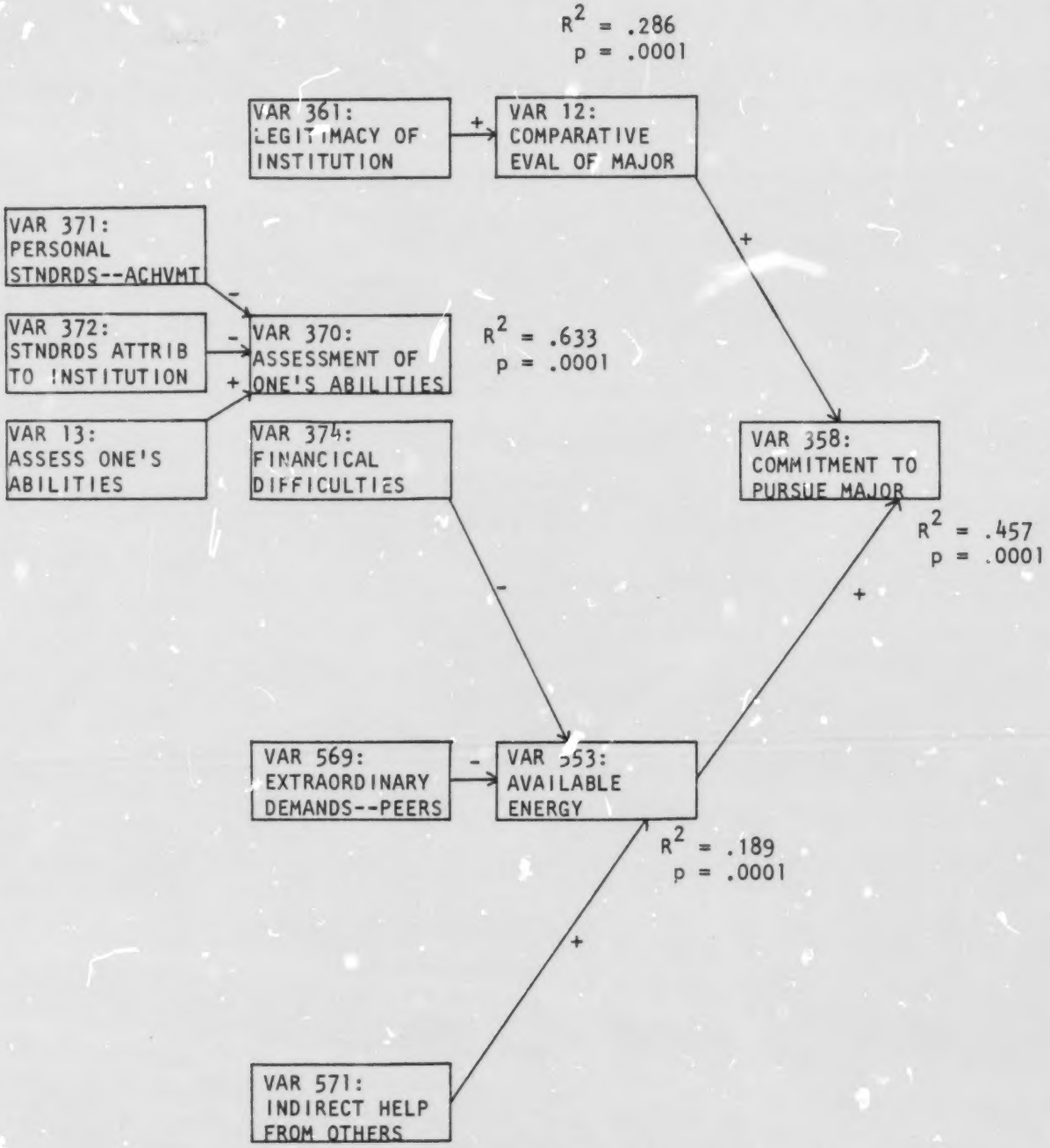

FIGURE 3-3: OBSERVED RESULTS--NORTH CAROLINA UNIVERSITY--CONTINUATION MODEL

As will be seen when "comparative evaluation of chosen major" and "energy available for studies" are further examined, these two variables constitute intervening variables between other variables, such as "indirect help," and "commitment to chosen major". This is especially true for NCU.

This difference obtains, at least in part, because as already mentioned, BU students seem to be more certain about their chosen major than are NCU students. When asked to respond to a question about relative certainty of present major compared to others, the BU sample mean was 4.43 (with a standard deviation of .743); the NCU sample mean, 4.04 (with a standard deviation of .867)--where the maximum response of "I feel very strongly that this is the best major for me" was assigned a "5" and the next highest response of "I am fairly sure that this is the best major for me" was assigned a "4." Where the NCU women question whether they should choose to emphasize one of their other potential career interests, the BU women question whether they can afford to pursue training in their chosen major; whether the goal is worth the costs; and whether the goal is more important than competing peer identities and rewards.

Comparative Evaluation of Major (VAR12)

Especially for NCU, as discussed above, "comparative evaluation of major" is an intervening variable which mediates effects on "commitment to pursue training in the chosen major." Table 3-12 describes the independent variables posited in the Continuation Model to have some direct effect on "comparative evaluation of chosen major." Figure 3-1 is a schematic drawing of the model.

The Model "explained" roughly 30% of the variance found in "comparative evaluation of chosen major" in both samples.* For BU, R^2 equals .317 (p=.0001).

---

* Variable 360, however, is inversely related whereas the Model predicted a direct relationship.

TABLE 3-12: OBSERVED PATH COEFFICIENTS FOR CONTINUATION MODEL FOR "COMPARATIVE EVALUATION OF MAJOR," "ENERGY AVAILABLE FOR STUDIES," AND "ASSESSMENT OF ONE'S ABILITY TO SUCCEED IN CHOSEN MAJOR/CAREER" BY UNIVERSITY

	BU	NCU
VARIABLES POSITED TO DIRECTLY AFFECT "COMPARATIVE EVALUATION OF MAJOR" (VAR12)*		
Legitimacy of the Institution's Standards (VAR360)	-.156** (p=.06)	.012 (NS)
Attachment to Rewards/Identities Associated with Major (VAR361)	.303 (p=.0009)	.532 (p=.0001)
Perceived Costs to Get Desired Ends from Major (VAR362)	.097 (NS)	-.086 (NS)
Assessment of One's Ability to Succeed in Chosen Major/Career (VAR370)	.361 (p=.0001)	.027 (NS)
VARIABLES POSITED TO DIRECTLY AFFECT "ENERGY AVAILABLE FOR STUDIES" (VAR553)		
Financial Difficulties (VAR374)	-.024 (NS)	-.132 (p=.09)
Competing Peer Identities/Rewards (VAR388)	-.020 (NS)	-.102 (NS)
Importance of Hometown Activities and Family (VAR377)	.186*** (p=.08)	.015 (NS)
Extraordinary Demands from Peers (VAR569)	-.093 (NS)	-.240 (p=.005)
Extraordinary Demands from Home (VAR390)	-.016 (NS)	-.041 (NS)
Direct Help from Others (VAR570)	-.017 (NS)	-.081 (NS)
Indirect Help from Others (VAR571)	.029 (NS)	.386 (p=.0001)
VARIABLES POSITED TO DIRECTLY AFFECT "ASSESSMENT OF ONE'S ABILITY TO SUCCEED IN CHOSEN MAJOR/CAREER" (VAR370)		
Personal Standards for Achievement (VAR371)	.139*** (p=.10)	.090*** (p=.09)
Standards Attributed to the Institution (VAR372)	-.454 (p=.0001)	-.741 (p=.0001)

TABLE 3-12 (CONTINUED)

	BU	NCU
Assessment of One's Talents/ Abilities (VAR13)	.301 (p=.0005)	.221 (p=.0001)

---

* Computations were carried out by the SYSREG procedure for a block recursive model--SAS.

** The top figure is the standardized "b" value or path coefficient. The figure in parentheses is the probability of the parameter estimate of the "b" value. Probabilities greater than .10 are not listed.

*** The Model predicted that the relationship would be negative, not positive.

For NCU, R^2 equals .286 (p=.0001). An important determinant for both samples is "attachment to rewards/identities associated with chosen major." This is a scale constructed from the set of items presented in Table 3-13.

"Assessment of One's Ability to Succeed in Chosen Major/Career" (VAR370)

This variable is a significant factor affecting the "comparative evaluation of major" for the BU sample. Table 3-12 includes that portion of the Continuation Model addressed to posited determinants of the "ability assessment" variable. For the BU sample, the Model "explains" roughly 30% of the variance (R^2=.324, p=.0001) and for the NCU sample, roughly 65% of the variance (R^2=.633, p=.0001). Unfortunately, for the NCU sample, the effects of this variable on the main dependent variable were not captured by the Model.

"Energy Available for Studies" (VAR553)

As described in Chapter II, this variable is composed of items that have to do with interferences posed by such problems as being too tired to study (see Table 2-6). Table 3-12 provides the path coefficients for variables posited by the Model to be determinants of the "available energy" variable.

For BU, none of the variables seem to be strongly associated with "energy available for studies," a point which is also shown in the non-significant R value of .212 (p=.7094). The variable, "importance of hometown activities and family" is significantly related to "energy available for studies," but the relationship is positive rather than negative as predicted in the Model. Although not captured by the Model, perhaps hometown support is an indirect source of help to the students at BU.

For NCU, however, the R value (R^2=.189) is significant (p=.0001). "Extraordinary demands from peers" and "indirect help-happiness from others,"

TABLE 3-13: MEAN ASSESSMENT OF AND IMPORTANCE GIVEN TO "REWARDS/ IDENTITIES ASSOCIATED WITH THE MAJOR" BY UNIVERSITY

	BU	NCU
Make good grades in college	3.56/2.90*	3.01/2.60*
Learn about interesting things	4.40/2.86	4.28/2.81
Acquire general knowledge	4.36/2.86	4.01/2.63
Use and develop the skills and talents you have	4.38/2.86	4.16/2.80
Use and develop the skills and talents you admire in others	4.09/2.43	3.87/2.32
Do other things besides study in college	3.82/2.39	3.04/2.60
Go to graduate or professional school	4.15/2.38	3.73/1.70
Get a job when you finish school	4.41/2.91	4.03/2.86
Get a job doing what you like when you finish school	4.34/2.92	4.23/2.90
Make money when you finish school	4.40/2.83	3.88/2.49
Make others proud of you	4.42/2.64	4.12/2.45
Become a leader or expert in your field	4.33/2.62	3.93/2.12
Have a career and manage a family too	4.11/2.63	3.68/2.47
Get a job and do other things you enjoy after college	4.26/2.80	3.92/2.82

*The first figure is mean assessment of how the major will affect the respondent's chances to _____; the second is mean importance attached to _____. See Appendix I-1 for more detail on questions Q12 and Q13. The mean sum of products for the BU sample was 48.24 (variance = 497.66); for the NCU sample, 33.36 (variance = 307.66). The highest value possible was 84, the lowest, -84. For details, see Appendix I-1, VAR361.

are the two main variables related to "available energy." The level of "extraordinary demands from peers" is inversely correlated with "available energy," while "indirect help" is positively correlated. In other words, for the NCU sample, these peer-related variables affect the intervening variable of "available energy" which affects "commitment to pursue chosen major."

Peripheral Peer-Group Effects

As pointed out at the beginning of the chapter, variables were included in the Continuation Model if they seemed, on the basis of the ethnographic data, to have an effect on "commitment to pursue chosen major" and if they seemed to be related to peer-group effects. The Model posits only three peer-related variables with direct effects: 1) that of "competing peer identities/rewards," which was found to be important for the BU, but not the NCU sample; 2) that of "direct help from others," and 3) that of "indirect help--happiness from others." The latter two posited direct effects were not supported by the data for either sample although "indirect help" was found for the NCU sample to be indirectly related to "commitment to pursue chosen major" via the intervening variable of "available energy." In this section, we will examine those aspects of the Continuation Model that posit other indirect peer effects. (See Figures 3-4, 3-5, 3-6.)

Table 3-14 lists the peer-related variables posited to be correlates of intervening variables in the Continuation Model. In all, we have considered three peer-related variables posited to have direct effects on "commitment to pursue major" and seven peer-related variables posited to have only indirect effects, through intervening variables. Table 3-15 summarizes the posited relationships and the results from the survey.

To summarize these findings, we found the following peer-related

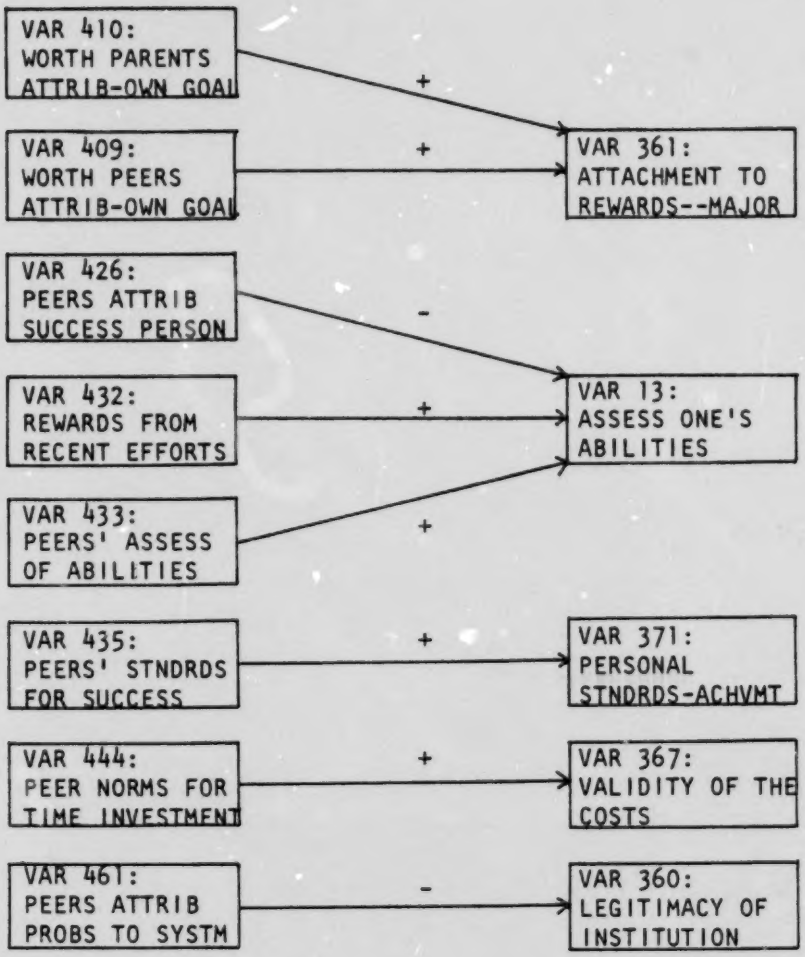

FIGURE 3-4: PERIPHERAL GROUP EFFECTS

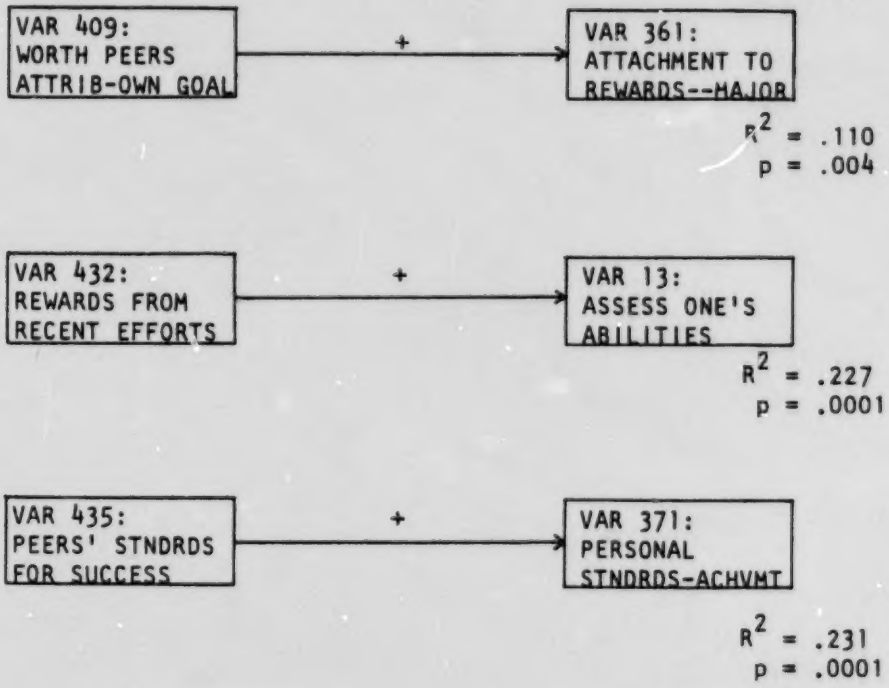

FIGURE 3-5: OBSERVED RESULTS--BRADFORD UNIVERSITY--PERIPHERAL GROUP EFFECTS

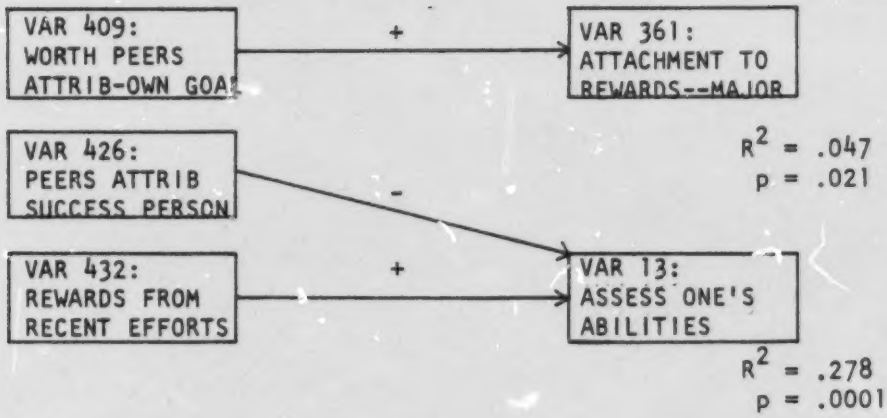

FIGURE 3-6: OBSERVED RESULTS--NORTH CAROLINA UNIVERSITY--PERIPHERAL GROUP EFFECTS

TABLE 3-14: OBSERVED "b" VALUES FOR CONTINUATION MODEL OF VARIOUS PERIPHERAL PEER GROUP EFFECTS BY UNIVERSITY

	BU	NCU
VARIABLES POSITED TO DIRECTLY AFFECT "ATTACHMENT TO REWARDS/ IDENTITIES ASSOCIATED WITH MAJOR" (VAR361)*		
Worth Parents Attribute to One's Goals (VAR410)	.413** (NS)	.054** (NS)
Worth Peers Attribute to One's Goals (VAR409)	.292 (p=.009)	.211 (p=.024)
R^2	.110 (p=.004)	.047 (p=.021)
VARIABLES POSITED TO DIRECTLY AFFECT "ASSESSMENT OF ONE'S ABILITIES, CHARACTERISTICS, AND TALENTS FOR CHOSEN MAJOR/ CAREER" (VAR13)		
Degree to Which Peers Attribute Success in School to Person's Ability (VAR426)	-.042*** (NS)	-.169*** (p=.012)
Rewards from Recent Efforts (VAR432)	.492 (p=.0001)	.460 (p=.0001)
Peers' Assessment of One's Abilities in School/Major (VAR433)	-.065 (NS)	.113 (NS)
R^2	.227 (p=.0001)	.278 (p=.0001)
VARIABLE POSITED TO DIRECTLY AFFECT "PERSONAL STANDARDS FOR SUCCESS" (VAR371)		
Peers' Standards for Success (VAR435)	.278** (p=.0001)	.035 (NS)
VARIABLE POSITED TO DIRECTLY AFFECT "ASSESSED VALIDITY OF THE COSTS OF EDUCATION" (VAR367)		
Group Norms for Investment of Time (VAR444)	.007** (NS)	.051 (NS)
VARIABLE POSITED TO DIRECTLY AFFECT "ASSESSED LEGITIMACY OF STANDARDS ASSOCIATED WITH THE INSTITUTION" (VAR360)		
Degree to Which Group Attributes Problems to the System (VAR461)	-.015** (NS)	.051 (NS)

*Computations were carried out by the SYSREG procedure for a block recursive model--SAS.

**These figures are the parameter estimate of the "b" values.

***The top figure is the standardized "b" value or path coefficient. The figure in parentheses is the probability of the parameter estimate of the "b" value. Probabilities greater than .10 are not listed.

TABLE 3-15: EXPECTED AND OBSERVED RELATIONSHIPS OF PEER-RELATED VARIABLES WITH COMMITMENT TO PURSUE CHOSEN MAJOR BY UNIVERSITY*

Peer Related Variable	Intervening Variables	Posited Value	Observed β-BU	Observed β-NCU
Competing Peer Identities/Rewards	1. None	$\beta < 0$	-.187** (p=.08)	-**** (NS)
	2. Energy Available for Studies	$\beta < 0$	- (NS)	- (NS)
Extraordinary Demands from Peers	1. Energy Available for Studies	$\beta < 0$	- (NS)	-.240 (p=.005)
Direct Help From Others	1. None	$\beta > 0$	- (NS)	- (NS)
	2. Energy Available for Studies	$\beta > 0$	- (NS)	- (NS)
Indirect Help From Others	1. None	$\beta > 0$	- (NS)	- (NS)
	2. Energy Available for Studies	$\beta > 0$	- (NS)	.386 (p=.0001)
Apparent Costs as Assessed by Costs to Group	1. Perceived Costs	$\beta > 0$	1.052*** (p=.001)	.497** (p=.0001)
Worth Peers Attribute to One's Goals	1. Attachment to Rewards/Identities Associated with the Major	$\beta > 0$	.292*** (p=.009)	.211*** (p=.024)
Degree to Which Peers Attribute Success to Person's Ability	1. Assessment of One's Ability to Succeed	$\beta > 0$	- (NS)	-.169 (p=.012)
Peers' Assessment of One's Abilities	1. Assessment of One's Ability to Succeed	$\beta > 0$	- (NS)	- (NS)
Peers' Standards for Success	1. Personal Standards for Success	$\beta > 0$	.278*** (p=.0001)	- (NS)
Group Norms for Investment of Time	1. Assessed Validity of the Costs of Education	$\beta > 0$	- (NS)	- (NS)

TABLE 3-15: (CONTINUED)

Peer Related Variable	Intervening Variables	Posited Value	Observed β-BU	Observed β-NCU
Degree to Which Group Attributes Problems to the System	1. Assessed Legitimacy of Standards Associated with the Institution	$\beta < 0$	- (NS)	- (NS)

* Computations were carried out by the SYSREG procedure for a block recursive model--SAS.

**The top figure is the standardized "b" value or path coefficient. The figure in parentheses is the probability of the parameter estimate of the "b" value. Probabilities greater than .10 are not listed.

***These figures are the parameter estimates for the "b" values.

****Values that were non-significant--where $p > .1$--are not listed here.

variables to be linked to "commitment to pursue chosen major" for the BU sample: "competing peer identities/rewards"; "worth peers attribute to one's goals;" and "peer's standards for success." For the NCU sample, we found the following peer-related variables to be indirectly linked to the commitment variable: "extraordinary demands from peers"; "indirect help from others"; and "worth peers attribute to one's goals." For both samples, one or two significant peer-related variables (e.g., "apparent costs as assessed by costs to group) were not listed because they did not relate through significant relationships to the "commitment" variable.

INTERPRETATION OF THE OBSERVED RELATIONSHIPS IN THE CONTINUATION MODEL

The Model, it should be recalled, was developed to capture some of the processes relevant to women's career paths, especially those that have to do with pursuing a major in college. As we have argued, womens' career paths in the first two years of college primarily entail efforts to select from among interests and identities that women have brought to the university with them. In some sense, this process is one of maintaining commitment to one's choice of a major despite obstacles and discouraging feedback. The Model was addressed to identifying factors that affect commitment to pursuing one's chosen major and particularly to identifying peer-related factors that play a role in this process of maintaining and discarding career identities. For the Bradford University sample, the Model was found to explain 35% of the variance in "commitment to chosen major"; for the North Carolina University sample, the amount explained was 45%. The following is an interpretation of the survey findings as informed by the Model.

Bradford University

The survey data meshes well with the findings from the ethnographic phase for the Bradford University women. The BU women tend to change their majors less and to be more certain than NCU women as to which career they wish to pursue. What ambivalence they have tends to be focused on another level--that of questioning the worth of the credential relative to its costs. Costs include time, energy, anxiety, money, and the sacrifice of other interests ("competing peer identities/rewards"). Furthermore, there is the question of whether these costs are legitimate and valid. Those who feel that the costs are unfair and/or excessive indicate less commitment to pursuing training in their major. This finding corroborates and refines an important argument made by Ogbu (1978) about the relationship between black Americans' knowledge of the structural barriers they face in U.S. society and their orientation toward educational achievement (see also Clement 1978).

As stated above, BU women tend to be clearer about their choice among majors than NCU women. Fifty-five (55%) percent of the BU sample said they felt strongly that their chosen major was the best one for them. This was only slightly less than twice the number of NCU women (31.7%) who felt as clear about their major.

In terms of identifying reasons for selecting a major, at BU as well as at NCU, "attachment to awards/identities associated with the major" (VAR361) is a good predictor of how clear a woman is likely to be about the suitability of her major.* The BU sample also indicates two other considerations in choice among majors: 1) whether or not success in them seems to be correlated with membership in a minority group (VAR360) and 2) whether one considers success in the major to be difficult or easy (VAR370). The

*It is likely that measurement of this variable (VAR361) could be improved with a concommitant improvement in its predictive ability. At present, the measure probably captures only a limited number of the identities/rewards associated with the major.

relationship between the "legitimacy" variable (VAR360) and "comparative evaluation of the major" was the reverse of what was predicted and therefore is not illuminated by the model. For BU respondents, the greater a woman's perceived facility with her chosen major, the more likely that she will see it as the best one for her.

The survey data indicate that peers play a direct role in BU women's career paths in that non-academic peer-related identities and rewards compete with career goals. The more committed a woman is to these alternative peer-related identities and rewards, the less commitment she is likely to express regarding training in the chosen major.

Otherwise, peers were predicted to have, and were found to have, indirect effects on "commitment to pursue training in one's chosen major." "Worth group attaches to one's goals" "explains" a significant, but small amount of "attachment to the identities/rewards associated with the major" which in turn affects "comparative evaluation of the chosen major" which in turn affects "committment to pursuing the major." Similarly, "peer group's standards for success (VAR435)" is positively associated with "personal standards for success (VAR371)" at a significant level. "Personal standards", in turn, is related to "assessment of one's facility with the major (VAR370)" which in turn is related to "comparative evaluation of the chosen major."

At BU, what we see is that peers serve, in part, as support for the inertia of career orientations that Bradford University women bring to college. The college community provides a wide variety of potential peers and fluid peer groups as was described in Chapter II. Also, as was previously described, women select peers and peer groups which are compatible with their interests. Since most of the women attending BU come from similar backgrounds, it is not likely that a woman will be faced with having to adapt to peers who are radically different from herself. Incorporation

into peer relationships and groups, especially in more formal groups such as sororities, provides a context for nurturance of some, but not all, aspects of the woman's identities and interests.

This molding and reinforcing process is a gradual one which affects women's choice among career directions in the very indirect ways described above. The direct effect posited by the Model and confirmed by the data is the negative pull exerted by competing peer identities and rewards.* Women can be drawn away from putting effort into their careers by the attraction of these competing peer identities and interests. In comparision with these alternative identities, in other words, career identities may seem less rewarding or attractive.

North Carolina University

NCU sophomore women tend not to be very certain whether their major is the best one for them. Many are still undergoing a process of winnowing their best subject from among the interests and identities that they brought with them to school. As already stated, they are sensitive to experiences and indications that can be taken as either confirming or disconfirming their own suitability for the major and vice versa.

At this point, the ambivalences of the NCU women are expressed at the level of choosing a major rather than at the level of deciding whether obtaining a degree is worthwhile or not. "Comparative evaluation of major" is the main predictor of "commitment to pursue training in the chosen major." NCU women's assessments of the legitimacy and validity of the costs of pursuing training are not associated with their commitment to pursue training as was the case for BU women. As far as career path goes,

*See, however, the final section of this chapter.

NCU women appear to view college as an experience in which they will (or are being required to) find out more about who they are and what would be positive aspects of themselves to develop. Although they also express pragmatic concerns, they are less likely than the BU women to view college primarily as a place where one goes to obtain the credentials that one needs to pursue one's chosen career.

The list of goals associated with the major (e.g., make good grades in college, get a good job after finishing school) used to construct VAR361 ("attachment to the identities/rewards associated with the major") appear to be at least a good preliminary list of goals related to the major that are important to NCU women, since the variable was found to be strongly and significantly associated with "comparative evaluation of the major." As with the BU sample, the worth peers associate with a woman's goals (VAR409) indirectly affects her career path through the intervening variables of "attachment to the identity/rewards associated with the major." Peers' approval of the woman's goals, according to the model, translate into greater attachment to the rewards and identities the woman associates with her chosen major, and therefore into greater commitment to pursue training in the major.

There are additional peer-group effects on career path. These are also indirect. Both the ethnographic and survey data suggest that, for the NCU women, peer activities and relations, particularly relationships with girlfriends, are extremely important. Peer relationships and peer activities affect career path through the intervening variable of "energy available for studies" (VAR553). Peers can demand and attract attention and assistance to the point that they interfere with coursework. Upset relationships interfere with concentration on studies. On the other hand,

positive relations ("indirect help-happiness: VAR571) positively affects "available energy." The more an NCU woman reports that her various peers help her indirectly by making her happy, the less she reports that her work is interrupted by fatigue, anxiety, and other things that she needs to do. For NCU women, having good peer relationships (that have not gotten out of hand) seem to be important for concentrating on one's studies.

UNPREDICTED DIRECT EFFECTS OF PEER VARIABLES

We have already examined all of the direct effects of peer variables that were predicted by the Continuation Model. The Continuation Model was developed, it will be recalled, on the basis of the ethnographic research which was oriented in part by arguments concerning role-identity. Because the research was focused on the effects of peer relations on career path, we also calculated the path coefficients associated with the system of equations that included the variables posed by the Continuation Model plus direct effects of the additional peer variables on "commitment to pursue training in the chosen major."

Table 3-16 indicates that introduction of these variables revealed direct effects of peer variables especially for BU. In addition, the R^2 for the BU sample increased to .47 ($p = .0001$) roughly comparable to the R^2 of .49 ($p = .0001$) for the NCU sample. Clearly, for the Bradford University sample, some direct effects of the peer variables were missed by the Continuation Model.

For NCU and BU, the Model missed the important direct effect of the variable, "peers' assessment of one's ability (VAR433)". For both samples, a respondent who felt that her peer group had a high assessment of her abilities also tended to express a high likelihood that she would continue to pursue her chosen major. Upon re-examination, the ethnographic data did reveal some

indication of why this variable might have a direct effect.

From the interviews, it was clear that one is considered to have high abilities on the strength of whether one can manage to participate both in peer activities and make good grades. There was some indication that those considered to have high abilities are put under less pressure to participate in non-academic peer activities. Their stated decisions as to how to allocate their time seem to receive more acceptance than do decisions of those to whom peers attribute lower abilities. This explanation would also help to account for the otherwise puzzling absence of an association between "peers' assessment of one's abilities" and "own assessment of one's abilities, characteristics, and talents for chosen major" (VAR13) (see Table 3-14). The relevance of peers' assessment of one's abilities perhaps is not that one's own assessment is affected, but rather that one receives differential treatment from peers depending on abilities they attribute to one.

This explanation remains tentative. The relationships that we have just posited are not strongly in evidence in the ethnographic data, and we suspect that there are additional factors underlying this relationship--factors that were not available to us through either our theoretical model or through the ethnographic data.

The finding for Bradford University concerning "degree to which group attributes problems to the system (VAR461)" is not difficult to understand since it seems to coincide with previously mentioned findings. Bradford women who feel the institution unfairly treats students are less likely to indicate a high certitude that they will continue pursuing training in their chosen major. At face value, the effects of this peer-related variable (VAR461) seem to indicate that the beliefs of one's peers concerning the fairness of the institution affect how BU students will view the university

and the possibilities of succeeding in the chosen field. The two other variables found to have direct effects, "degree to which group attributes success to person's ability" (VAR426) and "group standards for success" (VAR435), however, are not readily explicable by the Continuation Model nor by findings from the ethnographic data. While the Model posited indirect effects of these peer variables, some of which did eventuate as significant, it did not predict the direct effects revealed for the BU sample in Table 3-16.

The failure of the Model to capture the four direct effects of the peer variables for BU and the one direct effect for NCU indicates that the logic of these relationships was not discernible to us from the theoretical vantage point from which we initially viewed the research problem and that the likely existence of such a relationship did not become apparent during the ethnographic phase. In terms of the beliefs and values articulated by the women in our ethnographic sample and in terms of values and orientations discernible from observations of their peer group activities, we did not uncover reasons to suspect these direct relations. Evidently, some other theoretical orientation must be joined with ours in order to account for the findings. While the Continuation Model accounted for approximately 35% and 45% of the variance in commitment to pursue training in chosen major for the BU and NCU samples, respectively, the expansion of the model to include additional direct (versus indirect) effects from the four peer variables increased the amount of "explained" variance to 47% for the Bradford University sample and 49% for the NCU sample.

TABLE 3-16: UNPREDICTED DIRECT EFFECTS OF PEER-RELATED VARIABLES ON COMMITMENT TO PURSUE CHOSEN MAJOR BY UNIVERSITY*

Peer Related Variable	Observed B-BU**	Observed B-NCU
Apparent Costs as Assessed by Cost to Group (VAR128)	- .06*** p = .50	.09 p = .23
Worth Group Attributes to One's Goals (VAR409)	- .20 p = .17	- .10 p = .33
Degree to Which Group Attributes Success to Person's Ability (VAR426)	- .20 p = .08	- .04 p = .56
Peer Group's Assessment of One's Abilities (VAR433)	.33 p = .06	.27 p = .01
Group's Standards for Success (VAR435)	.16 p = .09	.03 p = .63
Group Norms for Investment of Time (VAR444)	- .11 p = .23	.06 p = .40
Degree to Which Group Attributes Problems to the System (VAR461)	- .30 p = .003	- .06 p = .40

*Computations were carried out by the SYSREG procedure for a block recursive model--SAS. The treatment of missing variables is to eliminate the entire case if one item is missing. This had a drastic effect for the BU sample where 73 respondents out of 179 were eliminated. For NCU, 29 cases out of 183 were eliminated. Detailed information about variable construction is given in Appendix I-1.

**Also included among the independent variable were those from the Continuation Model. Inclusion of direct effects from the peer-related variables for BU resulted in the finding of non-significant ($p > .10$) parameter estimates for Variables 360, 374, and 553. Variable 361, in contrast, showed a significant ($p = .02$) effect.

***The top figure is the standardized "b" value or path coefficient. The figure in parentheses is the probability of the parameter estimate of the "b" value. Probabilities greater than .10 are <u>not</u> listed.

CHAPTER IV: COLLEGE CAREER PATHS AND PEER GROUPS

As outlined in Chapter I, this study was designed to investigate the influence of college women's peer groups on their choices regarding career paths. In the course of this investigation, we have explored the processes by which college peer groups form and reform around people, activities and relationships. We have noted that, when young women go off to college, they enter a setting which offers a wide range of people to get to know, activities to engage in, and identities to enact, modify or discard. This range of opportunities is made available through university policies which offer various courses and degree programs, give official recognition and sponsorship to a variety of organizations and clubs, and organize activities so that students spend most of their time in the company of their peers. This extended and intimate contact with peers leads to additional opportunities in the form of a profusion of informal groups (e.g., friends, suitemates, boyfriends) which develop among students and in which students take part.

Our data suggest that peer relationships develop in all facets of college life, but that some relationships are more important than others. As such, some identities are stressed while others are not. In general, our data suggest that peer relationships and activities may compete with academic relationships and activities, but may also give support to them.

More often, especially at BU, it appears that peer relationships and activities have a negative effect on women's commitment to a major.* For the women at BU, the pull of nonacademic peer relationships and activities has a direct negative effect on commitment to pursue a chosen major. Peer groups are also associated with decreased commitment to pursuing a major in

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*For the sake of readability we have summarized our findings in looser terminology than used heretofore. Where a correlation was predicted by the Model and observed in the survey data, we take the liberty of presenting the point as though the causal sequence posited by the Model has been shown.

cases where peers encourage members troubled by academic problems to (1) blame professors or the university system for academic problems or (2) overcome their own personal shortcomings. In other words, the "model of the system" that is associated with peers, may have a negative effect on commitment. However, where the peer group's assessment of one's academic ability is high and where group standards are high, commitment also tends to be high. Peer groups at BU also provide indirect support for commitment to major through group standards for success and the worth the group attributes to an individual's goals. Thus, peer relationships at BU compete with, in some ways, but can be supportive of, in other ways, academic pursuits.

At NCU, the competing pull of peer relationships is not as strong. However, those women who report extraordinary demands from peers, or those who feel that peers do not offer support in the form of indirect help or happiness, tend to have lower amounts of energy available to pursue their studies, and consequently, have lower commitment to continuing in their present majors. Although not predicted by the Model, the peer group's assessment of one's ability has a direct effect on commitment. Peers have an indirect effect through their perceived assessment of the worth of one's goals: if a woman feels her peers value her goals, she is likely to report a relatively high commitment to her major.

Although peer relationships could conceivably provide a network for the exchange of information about careers, and particularly the special opportunities available to or the obstacles faced by women, this information rarely seems to be a topic of conversation among peers on the two campuses we studied. Instead, peer relationships are dominated by social and romantic concerns which tend to compete with, rather than to encourage, academic activities and the exchange of information about career alternatives, options, and barriers. This

is not to say that academic and work-related activities are not important to these women: they are very important. The point is that where the potential exists for peer and career-related activities to parallel each other in mutually reinforcing or supportive ways, this is not the case on these two campuses. Instead, both spheres of interest command a great deal of women's attention, but they seem to channel that attention in divergent ways.

The fact that peer and career-related interests and activities diverge, has, of course, implications for the influence of peers on career decision-making in college. Our data suggest that the influence of college peers is quite indirect. In the first place, most of the women in our samples arrived at college with well-developed senses of the career paths they intended to pursue. Selection of these career paths is primarily informed by pre-college experiences with role models, friends, relatives, and high school personnel. Although these ideas about one's career path undergo revision, especially during the freshman year, on the basis of the feedback one receives and the interpretation given to that feedback, an inertia seems to have developed around the career path such that career-related decisions made in college involve the modification of former career identities, rather than the adoption of new ones. In this context, peers seem to provide part of a backdrop against which present and former career identities are reevaluated. In other words, the process of making career decisions seems to be a conservative one in the sense that former identities rather than new ones tend to be developed. The college peer group is influential only to the extent that it provides a setting in which these former identities are reexamined.

The conservative influence of peers might sound unimportant except for the implications for women's representation in math or science careers. Since the majority of women in our samples had discarded math or science career identities before coming to college, they were not encouraged to consider

such identities during college. In the cases where new careers or identities were considered, the trend is away from math or science careers. Of those women who declared a math or science career in college, 45% had discarded this identity by the middle of their sophomore year (see also Wise et al. 1979).

This failure to consider, or the tendency to discard, math or science careers appears to be a function of several different factors, including peer groups. First, since information about the special opportunities for women in these fields is not exchanged in peer groups, one opportunity for interest to be piqued and encouragement or assistance given is not realized. Even in the case of Karla (described in Chapter II), who was more articulate on the subject of career opportunities and obstacles for women in science than were most of the other women in our ethnographic sample, she apparently did not converse about such matters with her female friends. She says: "I do not usually, as a rule, discuss my career plans too much with girls."

Another reason lies in university procedures which make at least some math and science fields more difficult to enter once one has embarked on a college course of study. Math courses, for example, are presented in certain sequences such that a math program is difficult to enter after time in college has elapsed. Business programs usually require completion of certain courses, and programs such as physical therapy and nursing require certain grade point averages for admission. These requirements, like the math sequences, make degree programs in these fields more difficult (or make them appear more difficult) to enter than programs in non-math/science fields.

Perhaps these problems could be overcome if adults or peer experts (i.e., peers who are familiar with these fields) were consulted. However, the women in our samples rarely consulted experts when considering a change

in major (see also Auster and Auster, 1981). Instead, they relied on their own ideas or those of their close friends. As a result, reasons for rejecting one career in favor of another often appear to be ill-founded and idiosyncratic. Although there is some evidence of gender stereotyped proclivities, these seem less significant than lack of information. When Bonnie declares that music is too hard because it is too much like math and when Aggie says that she would rather be a nurse than a physical therapist because of a difference in the amount of suffering one has to witness, indications of gender stereotypes are evident (i.e., women don't like math and suffering); however, what is more apparent is the limited amount of information about careers and what they entail.

The findings regarding the conservative influence of peers and the absence of explicit reference to gender stereotypes as these relate to career selection provide an interesting addition to previous work on peer groups and their influence. In previous work among fifth and sixth graders at a Southern elementary school (and upon which the present study was partially based), Clement and Eisenhart (1979) found that the peer group is of crucial importance in promoting gender roles and identities. The findings of that study were that in the absence of efforts on the part of the school or the teachers to segregate males and females, the children sorted themselves into gender-segregated groups whenever the opportunity arose. As a result, activities and interests were recognizable by gender.

In the previous work, we used a theoretical framework developed by Gearing et al. (1979) to predict that once a pattern of activities and interests becomes established between individuals in interaction with each other, information is repeatedly channeled accordingly, limiting access to opportunities to acquire new information and thus to develop alternative skills

or interests.

The results of such a gender division of domains can also be seen in Iglitzin's (1972) study of fifth graders' career aspirations and occupational knowledge. Even though a number of girls reported nontraditional career goals, most girls gave a detailed account of domestic chores when asked to describe activities that they expected to perform as adults. The boys, in contrast, gave informed accounts of on-the-job activities and ignored the domestic sphere. At that time, we hypothesized that, should such a pattern persist as these children grew up, support and informational networks would follow gender lines. The result would be that women would lack the requisite knowledge to want or be able to enter certain careers. The present study was designed to further this line of inquiry by investigating an older age group.

In the present study we found that the peer group did not play as great a role in giving meaning to career identities in college as it had in giving meaning to gender identities, such as romantic and friendship identities, in elementary school. In other words, the domains of college career identities and college gender identities appear to be distinct, at least in terms of the information conveyed about them in college.

However, an important similarity between the two studies is the finding that the peer group's influence is essentially conservative in two different senses of the word. In the elementary school, peer groups tended to promote traditionally feminine interests and activities for girls and traditionally masculine interests and activities for boys. At BU and NCU, peer groups tended to validate, or at least not try to alter, the non-math/science career identities of the majority of women in our samples.

Despite the tendency not to pursue or try out math or science careers, it

is important to note that many of the women in our samples are pursuing career paths which are nontraditional by comparison to women of the previous generation. For many of the women at BU, careers traditionally associated with black women are being rejected in favor of higher-paying "nontraditional" careers. At NCU, careers or pursuits, such as being a housewife, are being rejected on the grounds that they are not interesting or challenging. Thus, although career paths are not pointing the way to pure math or science careers, they are sending women in new directions, generally unexplored by women like themselves in previous generations. Peers, while recognizing these "nontraditional" careers as valid, do not seem to provide a context in which information pertinent to their realization is exchanged.

RECOMMENDATIONS

The findings of this study point to several recommendations for ways to increase the participation of women in math or science careers. First, our findings suggest the importance of pre-college course selection, career counseling and career role models. In this, our study supports the findings of others, e.g., Brush 1980, Dunteman et al. 1979, Sells 1973, and Wise et al. 1979, who have found pre-college math-related experiences critical to pursuit of math or science careers later.

Secondly, once women reach college, special efforts should be mounted to assist those who indicate an interest in pursuing a math or science career. Special interest (or majors) groups, targeted career counseling, and help from dorm resident advisors are three ways that institutional assistance could be provided.

Finally, it appears crucial to increase the occasions for women to learn about the special opportunities available to them in math or science fields and about the special problems which confront those who wish to pursue these

careers. Women's studies courses and special programs aimed at women's issues would be beneficial in this regard.

In sum, college-bound and college-aged women need help to overcome the inertia of past career identities which tend to channel their interests toward non-math or science careers. Peer groups tend to support this inertia and, in some cases, to drain energy and interest away from career alternatives that have relatively high demands because they constitute a sphere of activity and attraction that is often very disparate from one's studies. Since the presence of peer relationships and activities is pervasive in college life, special efforts on the part of colleges and universities are needed to overcome these biases so that more women have the knowledge and support to pursue nontraditional careers.

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APPENDIX I-1: SURVEY INSTRUMENT AND CODEBOOK

WOMEN'S DECISIONS ABOUT THEIR COLLEGE MAJOR AND COLLEGE ACTIVITIES

(A study funded by the National Institute of Education)

Dorothy Clement, Ph.D.

Margaret Eisenhart, Ph.D.

COVER SHEET FOR PEERS QUESTIONNAIRE

VAR01 1. Identification code . . . . . NEW CARD: _ _ _ _ (cols 1-4)

2. Card # . . . . . 1 (col 5)

3. Column A Major--"Major when first entered college"
(pick up from pages 1-4)

VAR02 a. First Column A Major . . . . . _ _ (cols 6-7)
((no response = 99))

VAR03 b. Second Column A Major . . . . . _ _ (cols 8-9)
((no response = 99))

VAR04 c. Third Column A Major . . . . . _ _ (cols 10-11)
((no response = 99))

4. Colum B Major--"Present major"
(pick up from pages 1-4)

VAR05 a. First Column B Major . . . . . _ _ (cols 12-13)
((no response = 99))

VAR06 b. Second Column B Major . . . . . _ _ (cols 14-15)
((no response = 99))

5. Column C Major--"Other majors in college"
(pick up from pages 1-4)

VAR07 a. First Column C Major . . . . . _ _ (cols 16-17)
((no response = 99))

VAR08 b. Second Column C Major . . . . . _ _ (cols 18-19)
((no response = 99))

VAR09 c. Third Column C Major . . . . . _ _ (cols 20-21)
((no response = 99))

VAR10 d. Fourth Column C Major . . . . . _ _ (cols 22-23)
((no response = 99))

6. Present major (in the case of a single present major, copy
VAR11 line #5a above; in the case of a double major, copy
response to Q2 (p. 5) of questionnaire) . . . . . _ _ (cols 24-25)

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*Note: ID consists of--1st digit, school code (1 = Central; 2 = UNC-CH main sample; 3 = UNC-CH small sample); 2nd - 4th digits, unique # between 001 and 400.

KEYPUNCHER: GO TO Q3, Page 5

The first section of the questionnaire asks about your college major.

1. The list below divides undergraduate majors into several groups. Please read through the list. Then circle the number (or numbers in case of double majors) which correspond to your majors. In Column A, circle the number(s) for the major you had when you first entered college. In Column B, circle the number(s) for your present major. In Column C, circle the number(s) for any other majors you have had while in college.

	Major when first entered college A	Present Major B	Other majors in college C
ARTS AND HUMANITIES			
Art, fine and applied	1	1	1
English (language & literature)	2	2	2
History	3	3	3
Journalism	4	4	4
Language & Literature	5	5	5
Music	6	6	6
Philosophy	7	7	7
Speech	8	8	8
Theatre or Drama	9	9	9
Theology or Religion	10	10	10
Other Arts & Humanities	11	11	11
BIOLOGICAL SCIENCE			
Biology (general)	12	12	12
Biochemistry or Biophysics	13	13	13
Botany	14	14	14
Marine (life) Science	15	15	15
Microbiology or Bacteriology	16	16	16
Zoology	17	17	17
Other Biological Science	18	18	18
BUSINESS			
Accounting	19	19	19
Business Administration	20	20	20
Finance	21	21	21
Marketing	22	22	22
Management	23	23	23
Other Business (not secretarial)	24	24	24
EDUCATION			
Business Education	25	25	25
Elementary Education	26	26	26
Music or Art Education	27	27	27
Physical Education or Recreation	28	28	28
Secondary Education	29	29	29
Special Education	30	30	30
Other Education	31	31	31
ENGINEERING			
Aeronautical or Astronautical Engineering	32	32	32
Civil Engineering	33	33	33
Chemical Engineering	34	34	34

	Major when first entered college A	Present Major B	Other majors in college C
ENGINEERING, cont.			
Electrical or Electronic Engineering	35	35	35
Industrial Engineering	36	36	36
Mechanical Engineering	37	37	37
Other Engineering	38	38	38
PHYSICAL SCIENCE			
Aerospace Studies	39	39	39
Astronomy	40	40	40
Atmospheric Science (incl. Meteorology)	41	41	41
Chemistry	42	42	42
Computer Science	43	43	43
Earth Science or Geology	44	44	44
Marine Science (incl. Oceanography)	45	45	45
Mathematics	46	46	46
Physics	47	47	47
Statistics	48	48	48
Other Physical Science	49	49	49
PROFESSIONAL			
Architecture or Urban Planning	50	50	50
Pharmacy	51	51	51
Predental, premedicine, preveterinary	52	52	52
Public Health (incl. Health Education)	53	53	53

	Major when first entered college A	Present major B	Other majors in college C
SOCIAL SCIENCE			
African Studies	54	54	54
Afro-American Studies	55	55	55
American Studies	56	56	56
Anthropology	57	57	57
Economics	58	58	58
Geography	59	59	59
Political Science (incl. Government, International Relations)	60	60	60
Psychology	61	61	61
Social Work	62	62	62
Sociology	63	63	63
Other Social Science	64	64	64
OTHER FIELDS			
Communications (radio, TV)	65	65	65
Forestry	66	66	66
Home Economics	67	67	67
Health Tech. (Medical, Dental, Lab)	68	68	68
Interdisciplinary Studies	69	69	69
Law Enforcement	70	70	70
Library Science	71	71	71

OTHER FIELDS, cont.	Major when first entered college A	Present major B	Other majors in college C
Military Science	72	72	72
Nursing	73	73	73
Recreation, Recreation Administration	74	74	74
Secretarial Studies	75	75	75
Therapy (occupational, physical, speech)	76	76	76
Other Field	77	77	77
Undecided	78	78	78

2. If you are a double major, or undecided about your major, answer the following question. (Others skip to Question #3.)

If you had to choose to major in only one subject at this time, which one would you choose? _____ _____

Please answer the following questions with this major in mind.

VAR12 3. How strongly do you feel about your present major? (circle one answer)

I feel very stongly that this is the best major for me.....5

I am fairly sure that this is the best major for me.....4

I am not sure whether this is the best major for me.....3

I have been thinking I might change my major to something else.....2

I am fairly sure that I will change my major to something else.....1

VAR13 4. How would you rate your own abilities, characteristics, and talents in your major field? (circle one)

Considerably above average.....5

Somewhat above average.....4

Average.....3

Somewhat below average.....2

Considerably below average.....1

5. For the types of people listed below, how difficult do you think it is to do well at this university in the major you have chosen? (circle one in each row)

		5 Very Difficult	4 Somewhat difficult	3 Not too difficult not too easy	2 Somewhat easy	1 Very Easy
VAR14	a. For the average person, it would be	5	4	3	2	1
VAR15	b. For the average female, it would be	5	4	3	2	1
VAR16	c. For the average male, it would be	5	4	3	2	1
VAR17	d. For me, it is	5	4	3	2	1

6. For the types of people listed below, how difficult do you think it will be to succeed after college, in the field for which you are currently preparing? (circle one in each row)

		Very difficult	Somewhat difficult	Not too difficult, not too easy	Somewhat easy	Very Easy
VAR 18	a. For the average person, it would probably be	5	4	3	2	1
VAR 19	b. For the average female, it would probably be	5	4	3	2	1
VAR 20	c. For the average male, it would probably be	5	4	3	2	1
VAR 21	d. For me, it would probably be	5	4	3	2	1

7. As far as grade averages go, how well do you and your friends want to do in college? (circle one answer in each row)

		An "A" average	A "B" average	A "C" average	Whatever it takes to scrape by	It doesn't matter
VAR 22	a. What grade average do <u>you</u> want to be sure to maintain?	4	3	2	1	0
VAR 23	b. What grade average do you think would satisfy most of your <u>female friends</u>?	4	3	2	1	0
VAR 24	c. What grade average do you think would satisfy most of your <u>male friends</u>?	4	3	2	1	0
VAR 25	d. What grade average do <u>you</u> want to be sure to maintain in your major?	4	3	2	1	0

8. In terms of future goals, how well do you think you and your friends will want to do when you finish school and go to work? (circle one in each row)

		Tops in the field	At least very good	At least average	At least good enough to get by	A life in which work doesn't matter
VAR 26	a. I'll probably aim for	4	3	2	1	0
VAR 27	b. Most of my male friends will probably aim for	4	3	2	1	0
VAR 28	c. Most of my female friends will probably aim for	4	3	2	1	0

9. The following questions ask about how things have been going with your major in the last six months. (circle one in each row)

		Very good	Good	Average	Not very good	Not good at all	Mark this answer when the question does not fit
VAR 29	a. How have your grades been in recent courses for your major?	5	4	3	2	1	0
VAR 30	b. Regardless of grades, how did your experiences in these courses make you feel about your abilities and talents for your major?	5	4	3	2	1	0
VAR 31	c. How have you done on recent jobs or outside projects that have to do with your major?	5	4	3	2	1	0
VAR 32	d. How have other recent indications of your progress made you feel about your talents and abilities in your major?	5	4	3	2	1	0

10. All things considered, how sure are you that you will be continuing in college next year?

VAR 33 _____% sure

(put a number between 0 and 100)

11. **All things considered, how sure are you that you will continue with your present major?**

VAR 34 _____% sure

(put a number between 0 and 100)

12. **How much do you think your present major will affect your chances to: (circle one answer in each row)**

		Increase chances a lot	Increase chances some	Will not affect chances	Decrease chances some	Decrease chances a lot
VAR 35	a. Make good grades in college?	5	4	3	2	1
VAR 36	b. Learn about things you are interested in?	5	4	3	2	1
VAR 37	c. Acquire general knowledge?	5	4	3	2	1
VAR 38	d. Use and develop the talents and skills you have?	5	4	3	2	1
VAR 39	e. Use and develop the talents and skills you admire in others?	5	4	3	2	1
VAR 40	f. Do other things besides study in college?	5	4	3	2	1
VAR 41	g. Go to graduate or professional school?	5	4	3	2	1
VAR 42	h. Get a job when you finish school?	5	4	3	2	1
VAR 43	i. Get a job doing what you like when you finish school?	5	4	3	2	1
VAR 44	j. Make money when you finish school?	5	4	3	2	1
VAR 45	k. Make others proud of you?	5	4	3	2	1
VAR 46	l. Become a leader or expert in your field?	5	4	3	2	1
VAR 47	m. Have a career <u>and</u> manage a family too?	5	4	3	2	1
VAR 48	n. Get a job <u>and</u> do other things you enjoy after college?	5	4	3	2	1

13. How important is it for you to:

			Very important	Somewhat important	Not very important	Not at all important
VAR 49	a.	Make good grades in college?	3	2	1	0
VAR 50	b.	Learn about things you are interested in.	3	2	1	0
VAR 51	c.	Acquire general knowledge?	3	2	1	0
VAR 52	d.	Use and develop the talents and skills you have?	3	2	1	0
VAR 53	e.	Use and develop the talents and skills you admire in others?	3	2	1	0
VAR 54	f.	Do other things besides study in college?	3	2	1	0
VAR 55	g.	Go to graduate or professional school?	3	2	1	0
VAR 56	h.	Get a job when you finish school?	3	2	1	0
VAR 57	i.	Get a job doing what you like when you finish school?	3	2	1	0
VAR 58	j.	Make money when you finish school?	3	2	1	0
VAR 59	k.	Make others proud of you?	3	2	1	0
VAR 60	l.	Become a leader or expert in your field?	3	2	1	0
VAR 61	m.	Have a career <u>and</u> manage a family too?	3	2	1	0
VAR 62	n.	Get a job <u>and</u> do the other things you enjoy after college?	3	2	1	0

This next section asks about the reactions of your friends and others to your studies.

14. In the eyes of the people listed below, how worthwhile do you think they would find your aims for your college education and later career? (circle one answer in each row)

			Very worthwhile	Worthwhile	None of their concern	Somewhat a waste of time	A big waste of time	Mark this answer when the question does not fit your situation
VAR 63	a.	For the most part, my girlfriends would think my aims are	5	4	3	2	1	0
VAR 64	b.	For the most part, my boyfriends would think my aims are	5	4	3	2	1	0
VAR 65	c.	For the most part, my male friends would think my aims are	5	4	3	2	1	0
VAR 66	d.	For the most part, my fellow majors at the university would think my aims are	5	4	3	2	1	0
VAR 67	e.	For the most part, the people in my dorm, apartment building, or sorority house would think my aims are	5	4	3	2	1	0
VAR 68	f.	For the most part, people that I work with on my job would think my aims are	5	4	3	2	1	0
VAR 69	g.	For the most part, people I know from my religious activities would think my aims are	5	4	3	2	1	0
VAR 70	h.	For the most part, the people I know from my political activities would think my aims are (include campus politics)	5	4	3	2	1	0
VAR 71	i.	For the most part, the people I know from my sports activities would think my aims are	5	4	3	2	1	0
VAR 72	j.	For the most part, the people I know from my sorority would think my aims are	5	4	3	2	1	0
VAR 73	k.	For the most part, the people I know from my special interest clubs or activities (e.g. yearbook, Hiking Club) would think my aims are	5	4	3	2	1	0

			Very worthwhile	Worthwhile	None of their concern	Somewhat a waste of time	A big waste of time	Mark this answer when the question does not fit your situation
VAR 74	1.	For the most part, my sister(s) would think my aims are	5	4	3	2	1	0
VAR 75	m.	For the most part, my brother(s) would think my aims are	5	4	3	2	1	0
VAR 76	n.	For the most part, my mother, or the female who raised me, would think my aims are	5	4	3	2	1	0
VAR 77	o.	For the most part, my father, or the male who raised me, would think my aims are	5	4	3	2	1	0

15. How important to you are the following people's opinions about your success in school and your progress toward your future goals? (circle one answer in each row)

			Very important	Somewhat important	Not very important	Not at all important	Mark this answer when the question does not fit your situation
VAR 78	a.	My girlfriends' opinions	4	3	2	1	0
VAR 79	b.	My boyfriend(s) or dates' opinions	4	3	2	1	0
VAR 80	c.	My male friends' opinions	4	3	2	1	0
VAR 81	d.	My fellow majors' opinions	4	3	2	1	0
VAR 82	e.	The opinions of acquaintances who live in my dorm, apartment building, or sorority house	4	3	2	1	0
VAR 83	f.	The opinions of people I work with on my job	4	3	2	1	0
VAR 84	g.	The opinions of people I know from my religious activities	4	3	2	1	0
VAR 85	h.	The opinions of people I know from my political activities	4	3	2	1	0
VAR 86	i.	The opinions of people I know from my sports activities	4	3	2	1	0

			4 Very Important	3 Somewhat Important	2 Not very Important	1 Not at all Important	Mark this answer when the question does not fit your situation
VAR 87	i.	The opinions of people I know from my sororitv	4	3	2	1	0
VAR 88	k.	The opinions of people I know from my special interest clubs or activities	4	3	2	1	0
VAR 89	l.	The opinions of my sister(s)	4	3	2	1	0
VAR 90	m.	The opinions of my brother(s)	4	3	2	1	0
VAR 91	n.	The opinions of my mother, or the female who raised me	4	3	2	1	0
VAR 92	o.	The opinions of my father, or the male who raised me	4	3	2	1	0

16. When things go wrong in your school work, <u>how</u> do the following people usually react to you? (Circle one in each row which describes what they <u>are most likely to do</u>)

			Encourage me to avoid mistakes and overcome my weaknesses	Help me figure out what steps to take to fix up the situation	Explain what was wrong with the professor or assignment	Try to cheer me up	Don't or can't help	Mark this answer when the question does not fit your situation
VAR 93	a.	My girlfriends	5	4	3	2	1	0
VAR 94	b.	My boyfriend(s) or dates	5	4	3	2	1	0
VAR 95	c.	My male friends	5	4	3	2	1	0
VAR 96	d.	My fellow majors	5	4	3	2	1	0
VAR 97	e.	Those who live in my dorm, apartment building, or sorority house	5	4	3	2	1	0
VAR 98	f.	Those I work with on my job	5	4	3	2	1	0
VAR 99	g.	Those I know from my religious activities	5	4	3	2	1	0
VAR 100	h.	Those I know from my political activities	5	4	3	2	1	0

			Encourage me to avoid mistakes and overcome my weaknesses	Help me figure out what steps to take to fix up the situation	Explain what was wrong with the professor or assignment	Try to cheer me up	Don't or can't help	Mark this answer when the question does not fit your situation
VAR 101	i.	Those I know from my sports activities	5	4	3	2	1	0
VAR 102	j.	Those I know from my sorority	5	4	3	2	1	0
VAR 103	k.	Those I know from my special interest clubs and activities	5	4	3	2	1	0
VAR 104	l.	My sister(s)	5	4	3	2	1	0
VAR 105	m.	My brother(s)	5	4	3	2	1	0
VAR 106	n.	My mother, or the female who raised me	5	4	3	2	1	0
VAR 107	o.	My father, or the male who raised me	5	4	3	2	1	0

17. What do you imagine the following people think about your talents, abilities, and suitability for your major? (circle one in each row)

			What it takes to be outstanding	What it takes to be a success	Enough to do average work	Enough to scrape by	Less than I need	Mark this answer when the question does not fit your situation
VAR 108	a.	My girlfriends think that I have	5	4	3	2	1	0
VAR 109	b.	My boyfriend(s) or dates think that I have	5	4	3	2	1	0
VAR 110	c.	My male friends think that I have	5	4	3	2	1	0
VAR 111	d.	My fellow majors think that I have	5	4	3	2	1	0
VAR 112	e.	Those who live in my dorm, apartment building, or sorority house think that I have	5	4	3	2	1	0
VAR 113	f.	Those I work with on my job think that I have	5	4	3	2	1	0

			What it takes to be outstanding	What it takes to be a success	Enough to do average work	Enough to scrape by	Less than I need	Mark this answer when the question does not apply to your situation
VAR 114	g.	Those I know from my religious activities think that I have	5	4	3	2	1	0
VAR 115	h.	Those I know from my political activities think that I have	5	4	3	2	1	0
VAR 116	i.	Those I know from my sports activities think that I have	5	4	3	2	1	0
VAR 117	j.	Those I know from my sorority think that I have	5	4	3	2	1	0
VAR 118	k.	Those I know from special interest clubs and activities think that I have	5	4	3	2	1	0
VAR 119	l.	My sister(s) think that I have	5	4	3	2	1	0
VAR 120	m.	My brother(s) think that I have	5	4	3	2	1	0
VAR 121	n.	My mother, or the female who raised me, thinks that I have	5	4	3	2	1	0
VAR 122	o.	My father, or the male who raised me, thinks that I have	5	4	3	2	1	0

The following questions are about the "costs" of your college education

18. Suppose you wanted to be sure to get what you want from your program of study: (circle one in each row)

			A great deal	Quite a bit	Some	Not very much	None
VAR 123	a.	How much <u>time</u> would you have to put into it?	4	3	2	1	0
VAR 124	b.	How much <u>work</u> would you have to put into it?	4	3	2	1	0
VAR 125	c.	How much <u>worry and tension</u> would you have to put up with?	4	3	2	1	0
VAR 126	d.	How much <u>additional coursework</u> would it take for you to complete the program?	4	3	2	1	0

		A great deal	Quite a bit	Some	Not very much	None
VAR 127	e. How much time would you have to put into earning money so that you could continue in school?	4	3	2	1	0

19. Judging by others you know who have the same major as you, how much effort is required to do well? (circle one answer)

VAR 128

A great deal.....4

Quite a bit.....3

Some.....2

Not very much.....1

None.....0

20. Thinking about the time, energy, and money that your college education costs: (Circle one in each row for a., b., and c., then go on to d. and e.)

		A lot less than might be expected	A little less than might be expected	Equivalent to what it should be	A bit more than it should be	A lot more than it should be
VAR 129	a. Do you feel that the time required by your studies at this university is:	5	4	3	2	1
VAR 130	b. Do you feel that the work required by your studies here at this university is;	5	4	3	2	1
VAR 131	c. Do you feel that the worry and tension required by your studies here at this university is:	5	4	3	2	1

VAR 132 d. Do you think that most of the course required for your degree are worthwhile for your purposes? (circle one answer)

All of them are worthwhile.....5

Most of them are worthwhile.....4

About half of them are worthwhile.....3

Only a few of them are worthwhile.....2

None of them are worthwhile.....1

VAR 133 d. Do you feel that the cost of a college education here at the university is worth what you get out of it? (circle one answer)

It costs far less money than it's worth.....5

It costs less money than it's worth.....4

It costs about what it's worth.....3

It costs more money than it's worth.....2

It costs far more money than it's worth.....1

21. From what you can tell, what do your friends think about the amount of effort that you put into your schoolwork?

		Way too much	More than I should	About what I should	Somewhat less than I should	A lot less than I should	Question does not apply
VAR 134 a.	My girlfriends probably think that I study	1	2	3	4	5	6
VAR 135 b.	My boyfriend(s) or dates probably think that I study	1	2	3	4	5	6
VAR 136 c.	My male friends probably think that I study	1	2	3	4	5	6
VAR 137 d.	Those who live in my dorm, apartment building, or sorority house probably think that I study	1	2	3	4	5	6
VAR 138 e.	My sister(s) probably think that I study	1	2	3	4	5	6
VAR 139 f.	My brother(s) probably think that I study	1	2	3	4	5	6
VAR 140 g.	My mother, or the female who raised me, probably thinks that I study	1	2	3	4	5	6
VAR 141 h.	My father, or the male who raised me, probably thinks that I study	1	2	3	4	5	6

22. For the groups listed below, do you think the requirements at this univerisity for success in your major are fair?

		A lot	To some extent	A bit	None at all
VAR 142	a. How much do you think the requirements for success in your major put certain groups such as women and blacks at an unfair disadvantage?	1	2	3	4
VAR 143	b. How much do you think the requirements for success in your major put certain kinds of individuals at an unfair disadvantage?	1	2	3	4
VAR 144	c. How much do you think the instructors and university staff unfairly discriminate against certain groups such as women and blacks?	1	2	3	4
VAR 145	d. How much do you think the instructors and university staff unfairly discriminate against certain kinds of individuals?	1	2	3	4

23. If you had to choose a career right now, what would it be?

_____

24. How strongly do you feel about this career? (circle one answer)

VAR 146

I feel very stongly that this is the career I want.....4

I am fairly sure that this is the career I want.....3

I have some doubts that this is the career I want.....2

I have a lot of doubts that this is the career I want.....1

I don't really want a career.....0

This next section asks about other things besides studies that are important in your life right now.

25. How important are your friendships? (circle one in each row)

		One of the most important things in my life right now	One of the more important things	Somewhat important	Not very important	Not at all important	Not part of my life right now
VAR 147	a. My friendships with my close girlfriends are:	5	4	3	2	1	0
VAR 148	b. Making more close friendships with women here on campus is:	5	4	3	2	1	0
VAR 149	c. My friendships with my male friends (other than those I date) are:	5	4	3	2	1	0
VAR 150	d. Making more friendships with men whom I like, but don't date is:	5	4	3	2	1	0

26. How important are boyfriends and dates?

VAR 151	a. My relationship with my steady (or main) boyfriend is:	5	4	3	2	1	0
VAR 152	b. Finding a new steady or main boyfriend that I like a lot is:	5	4	3	2	1	0
VAR 153	c. Having a number of guys around that I like to date is:	5	4	3	2	1	0

27. How important are family and hometown activities?

VAR 154	a. For my well-being and happiness, keeping in contact with my family is:	5	4	3	2	1	0
VAR 155	b. For my family's well-being and happiness, keeping in contact with them is:	5	4	3	2	1	0
VAR 156	c. Participating in things going on in my hometown is:	5	4	3	2	1	0

28. How important are socializing activities like parties? (circle one in each row)

		One of the most important things in my life right now	One of the more important things	Somewhat important	Not part of my life right now	Not at all important	Not very important
VAR 157	a. Having parties to go to and and other fun things to do is:	5	4	3	2	1	0
VAR 158	b. Having friends and acquaintances who like to party is:	5	4	3	2	1	0
VAR 159	c. Getting together with my friends is:	5	4	3	2	1	0
VAR 160	d. Going out with my boyfriend(s) or dates is:	5	4	3	2	1	0

29. How important are sports activities?

VAR 161	a. Following one or more of the university sports teams is:	5	4	3	2	1	0
VAR 162	b. Doing some activity like swimming, jogging, racquetball, or tennis on a regular basis is:	5	4	3	2	1	0
VAR 163	c. Being in a sports club is:	5	4	3	2	1	0
VAR 164	d. My participation in the sports club I belong to is:	5	4	3	2	1	0
VAR 165	e. Keeping in contact with people who share my interests in sports activities is:	5	4	3	2	1	0

30. How important are performing groups and related activities?

VAR 166	a. Attending the performances of one of the university's performing groups (e.g., choir, band, drama group, debating team) is:	5	4	3	2	1	0
VAR 167	b. Being a member of a univerisity performing group is:	5	4	3	2	1	0
VAR 168	c. Keeping up or developing my skills in some performing art is:	5	4	3	2	1	0
VAR 169	d. Keeping in contact with people who share my interest in performing arts is:	5	4	3	2	1	0

31. How important is being in a sorority?

		One of the most important things in my life right now	One of the more important things	Somewhat important	Not very important	Not at all important	Not part of my life right now
VAR 170	a. Being in a sorority here at the university is:	5	4	3	2	1	0
VAR 171	b. My participation in my sorority is:	5	4	3	2	1	0
VAR 172	c. Keeping in contact with people who are interested in sorority activities is:	5	4	3	2	1	0

32. How important are your religious activities and memberships?

VAR 173	a. Following my religious beliefs is:	5	4	3	2	1	0
VAR 174	b. Attending religious services on a regular basis is:	5	4	3	2	1	0
VAR 175	c. My participation in a local or hometown church or religious groups is:	5	4	3	2	1	0

33. How important are political activities:

VAR 176	a. Being knowledgeable about local campus issues (e.g., university policies on grading, allotment of student fees, alledged discrimination in admissions) is:	5	4	3	2	1	0
VAR 177	b. My participation in local campus groups trying to affect campus issues is:	5	4	3	2	1	0
VAR 178	c. Being knowledgeable about political issues that affect a special group (e.g., the equal rights ammendment, affirmative action policies)is:	5	4	3	2	1	0

			One of the most important things in my life right now	One of the more important things	Somewhat important	Not very important	Not at all important	Not part of my life right now
VAR 179	d.	My participation in groups or organizations trying to improve conditions for a special group (e.g., women, blacks) is:	5	4	3	2	1	0
VAR 180	e.	Staying in contact with people who share my interests and concerns about the plight of women, blacks, or some other special group is:	5	4	3	2	1	0
VAR 181	f.	Being knowledgeable about state and national political issues is:	5	4	3	2	1	0
VAR 182	g.	Working with or for groups trying to affect political policy or encourage the election of particular candidates for office is:	5	4	3	2	1	0
VAR 183	h.	Keeping in contact with people who share my interests in state or national politics is:	5	4	3	2	1	0

34. How important is academics in your life?

VAR 184	a.	Maintaining good grades here at the university is:	5	4	3	2	1	0
VAR 185	b.	Getting an academic award and/or invitation to join an academic honorary is:	5	4	3	2	1	0
VAR 186	c.	Keeping in contact with other people who want to do well in school is:	5	4	3	2	1	0
VAR 187	d.	Doing well in my major is:	5	4	3	2	1	0
VAR 188	e.	Participating in a special interest club(e.g., math club) or sorority (e.g., business sorority) related to my major is:	5	4	3	2	1	0
VAR 189	f.	Achieving special recognition or an award related to my major is:	5	4	3	2	1	0

		One of the most important things in my life right now	One of the more important things	Somewhat important	Not very important	Not at all important	Not part of life right now
VAR 190	g. Keeping in contact with others who share my interests and concerns about my major is:	5	4	3	2	1	0
VAR 191	h. Acquiring a good education here at the university is:	5	4	3	2	1	0
VAR 192	i. Keeping in contact with others who want to get a good education is:	5	4	3	2	1	0

35. How important is travel?

VAR 193	a. Going somewhere new and exciting over Christmas, Spring break, or this coming summer is:	5	4	3	2	1	0
VAR 194	b. Keeping in contact with people who share my interest in new places is:	5	4	3	2	1	0

36. How important are other special interest clubs or activities?

VAR 195	a. Participating in the other special interest clubs or activities I belong to (e.g., yearbook staff, newspaper, cheerleading) is:	5	4	3	2	1	0
VAR 196	b. Achieving special recognition for my talents, abilities, or efforts in this area is:	5	4	3	2	1	0
VAR 197	c. Keeping in contact with people who share this special interest with me is:	5	4	3	2	1	0

37. How important is a job or volunteer work?

		One of the most important things in my life right now	One of the more important things	Somewhat important	Not very important	Not at all important	Not part of my life right now
VAR 198	a. Having a job or doing volunteer work during the school year is:	5	4	3	2	1	0
VAR 199	b. Doing well in my current job(s) or my volunteer work is:	5	4	3	2	1	0
VAR 200	c. Keeping in contact with people who know about and share my concerns and interests in my job or volunteer work is:	5	4	3	2	1	0
VAR 201	d. Having a job or volunteer work to do for the summer is:	5	4	3	2	1	0

38. Have any of the following people taken up an unusually large amount of your time and energy this semester? That is, has anything unexpected or extraordinary happened which caused you to spend more time with them than you had planned? (circle one answer in each row)

		Yes	No
VAR 202	a. girlfriend(s)	1	0
VAR 203	b. male friend(s) (not boyfriends)	1	0
VAR 204	c. boyfriend(s)	1	0
VAR 205	d. family members	1	0

39. Have you spent an abnormally large amount of time this semester on any of the following activities? That is, have you spent such a large amount of time and energy on them that you ended up cutting down on the other things that you normally do? (circle one answer in each row)

		Yes	No
VAR 206	a. hometown activities	1	0
VAR 207	b. partying and/or getting together with friends	1	0
VAR 208	c. dating	1	0
VAR 209	d. keeping up with the university's team(s)	1	0
VAR 210	e. participating on a university team, being in a sports club, or doing a regular physical activity like jogging	1	0

			Yes	No
VAR 211	f.	attending performances of one of the university's groups such as the drama group	1	0
VAR 212	g.	participating as a member of one of the university's performing groups or practicing and performing on one's own	1	0
VAR 213	h.	joining or participating in a sorority	1	0
VAR 214	i.	religious concerns and/or participation in a religious group	1	0
VAR 215	j.	local campus politics	1	0
VAR 216	k.	concern and/or participation in an organization(s) devoted to the cause of special groups (e.g., blacks, women)	1	0
VAR 217	l.	state and/or national politics	1	0
VAR 218	m.	trying to make good grades in all your courses	1	0
VAR 219	n.	learning about and trying to do well in your major	1	0
VAR 220	o.	pursuing academic interests	1	0
VAR 221	p.	a job or volunteer work	1	0
VAR 222	q.	planning and taking trips	1	0
VAR 223	r.	other special interest groups	1	0

40. Have any of the following interfered with your schoolwork this semester?

			A good deal	Somewhat	A little bit	None at all	There weren't any
VAR 224	a.	How much did your health problems interfere with your coursework?	4	3	2	1	0
VAR 225	b.	How much did the health problems of your family members interfere with your coursework?	4	3	2	1	0
VAR 226	c.	How much did your efforts to get funds for school interfere with your schoolwork this semester?	4	3	2	1	0

41. How do the following people help you with your schoolwork and future plans? (Mark either Yes or No for 5 answers per row; if the particular question does not match your situation right now, mark "No" for all the answers in the row.)

	a. Decisions I have to make about my program	b. Problems with coursework	c. Direct help e.g., studying with me, typing my papers	d. Friendly encouragement	e. Indirectly by making me happy
	Yes No	Yes No	Yes No	Yes No	Yes No
a. My girlfriends help with	VAR 227 1 0	VAR 242 1 0	VAR 257 1 0	VAR 272 1 0	VAR 287 1 0
b. My male friends (not boyfriends) help with	VAR 228 1 0	VAR 243 1 0	VAR 258 1 0	VAR 273 1 0	VAR 288 1 0
c. My boyfriend(s) help with	VAR 229 1 0	VAR 244 1 0	VAR 259 1 0	VAR 274 1 0	VAR 289 1 0
d. My family helps with	VAR 230 1 0	VAR 245 1 0	VAR 260 1 0	VAR 275 1 0	VAR 290 1 0
e. People I know from my sports activities help with	VAR 231 1 0	VAR 246 1 0	VAR 261 1 0	VAR 276 1 0	VAR 291 1 0
f. The people I know from my music, drama, or other performance activities help with	VAR 232 1 0	VAR 247 1 0	VAR 262 1 0	VAR 277 1 0	VAR 292 1 0
g. My sorority sisters help with	VAR 233 1 0	VAR 248 1 0	VAR 263 1 0	VAR 278 1 0	VAR 293 1 0
h. People I know from my religious activities help with	VAR 234 1 0	VAR 249 1 0	VAR 264 1 0	VAR 279 1 0	VAR 294 1 0
i. People I know from my campus political activities help with	VAR 235 1 0	VAR 250 1 0	VAR 265 1 0	VAR 280 1 0	VAR 295 1 0
j. People I know from my efforts on behalf of special groups (e.g., women, blacks) help with	VAR 236 1 0	VAR 251 1 0	VAR 266 1 0	VAR 281 1 0	VAR 296 1 0
k. People I know from my work on state and national politics help with	VAR 237 1 0	VAR 252 1 0	VAR 267 1 0	VAR 282 1 0	VAR 297 1 0
l. People I know from my courses help with	VAR 238 1 0	VAR 253 1 0	VAR 268 1 0	VAR 283 1 0	VAR 298 1 0
m. Fellow majors help with	VAR 239 1 0	VAR 254 1 0	VAR 269 1 0	VAR 284 1 0	VAR 299 1 0
n. People I know from other special interest clubs or activities help with	VAR 240 1 0	VAR 255 1 0	VAR 270 1 0	VAR 285 1 0	VAR 300 1 0
o. People from my job help with	VAR 241 1 0	VAR 256 1 0	VAR 271 1 0	VAR 286 1 0	VAR 301 1 0

42. When you have schoolwork to do, do you ever put it off because: (circle one answer in each row)

			Never	Not very often	Sometimes	A lot of times	Most of the t
VAR 302	a.	There are other things you <u>need</u> to do more?	5	4	3	2	1
VAR 303	b.	There are other things you <u>want</u> to do more?	5	4	3	2	1
VAR 304	c.	<u>Other people</u> want you to do something else?	5	4	3	2	1
VAR 305	d.	You feel <u>too tired</u> to do the work?	5	4	3	2	1
VAR 306	e.	You feel <u>too upset</u> about other things?	5	4	3	2	1

43. How much of a problem is it for you to come up with the money you need to pay for your college education? (circle one answer)

VAR 307

No problem at all 5

Not much of a problem.....4

Somewhat of a problem.....3

A big problem.....2

So much of a problem I'll probably have to drop out, at least for awhile.1

The next set of questions asks about your attraction or lack of attraction to fields which require some study of math and/or science. Regardless of your attitudes toward math or science, please answer the following questions carefully. We need your answers in order to determine why some people major in math and science fields while others do not.

---

44. When is the earliest you can remember being interested in learning more about math or science? (circle one)

VAR 308

I was never interested.....0

During my sophomore year of college.....1

Between my freshman and sophomore years in college.....2

During my freshman year in college.....3

When I first entered college.....4

Between high school and my freshman year in college.....5

During high school.....6

During the junior high school grades (7th and 8th grades).....7

During elementary school.....8

Before elementary school.....9

45. When is the earliest you can remember taking deliberate steps to pursue your interests in math and/or science? (Deliberate steps include deciding to take a course in math or science, reading books, talking about, or looking for jobs having to do with math or science.) (circle one)

VAR 309

I never took any steps.....0

During my sophomore year of college.....1

Between my freshman and sophomore years in college.....2

During my freshman year in college.....3

When I first entered college.....4

Between high school and my freshman year in college.....5

During high school.....6

During the junior high school grades (7th and 8th grades).....7

During elementary school.....8

Before elementary school.....9

46. When, if ever, did you first seriously consider majoring in math or science? (Math or science majors include any of the BIOLOGICAL SCIENCES, MATHEMATICS, PHYSICAL SCIENCES, or STATISTICS.) (circle one)

VAR 310

I never seriously considered majoring in math or science.....0
(Note: If you circle this answer, skip ahead to Question 49.)

During my sophomore year of college.....1

Between my freshman and sophomore years in college.....2

During my freshman year in college.....3

When I first entered college.....4

Between high school and my freshman year in college.....5

During high school.....6

During the junior high school grades.....7

During elementary school.....8

Before elementary school.....9

47. When, if ever, did you drop your plans to major in math and/or science? (circle one)

VAR 311

I am still majoring in math or science.....8
(Note: If you circled this answer, skip ahead to Question 49.)

During my sophomore year in college.....7

Between my freshman and sophomore years in college.....6

During my freshman year in college.....5

When I first entered college.....4

Between high school and my freshman year in college.....3

During high school.....2

Before high school.....1

I never planned to major in math or science.....0
(Note: If you circled this answer, skip ahead to Question 49.)

48. Briefly explain your reasons for deciding not to go on in math or science.

_____

_____

_____

_____

_____

49. When, if ever, did you first seriously consider majoring in a math or science related field? (By related fields, we mean BUSINESS, COMPUTER SCIENCE, ENGINEERING, NURSING, PHARMACY, PREDENTISTRY, PREMEDICINE, PREVETERINARY, Occupational, Physical, or Speech THERAPY.) (circle one)

VAR 312

I never seriously considered majoring in one of these fields.....0
(Note: If you circle this answer, skip ahead to Question 51.)

During my sophomore year of college.....1

Between my freshman and sophomore years in college.....2

During my freshman year in college.....3

When I first entered college.....4

Between high school and my freshman year in college.....5

During high school.....6

During the junior high school grades (7th and 8th grades).....7

During elementary school.....8

Before elementary school.....9

50. When, if ever, did you drop your plans to major in one of the fields listed in Question 49? (circle one)

VAR 313

I am still majoring in one of these fields.....8

During my sophomore year in college.....7

Between my freshman and sophomore years in college.....6

During my freshman year in college.....5

When I first entered college.....4

Between high school and my freshman year in college.....3

During high school.....2

Before high school.....1

I never planned to major in one of these fields.....0

51. The following questions ask how well you think you would do in math or science. (circle one number in each row)

		Much better than average	Above average	About average	Slightly below average	Below average
VAR 314	a. Relative to others you know, how would you rate your overall ability in math or science? (Rate your best subject.)	5	4	3	2	1
VAR 315	b. Relative to others you know, how would you rate your pre-college background in math?	5	4	3	2	1
VAR 316	c. Relative to others you know, how good do you think you'd be as a major in math or science? (A math or science major includes any major in the biological sciences, the physical sciences, mathematics, or statistics.)	5	4	3	2	1
VAR 317	d. Relative to others, how good a mathematician or scientist do you think you'd make?	5	4	3	2	1

52. Thinking back on your past as well as the present, how frequently have you had the following kinds of experiences? (circle one number in each row)

		Very frequently	Fairly frequently	Occasionally	Rarely	Never
VAR 318	a. People telling you that you are good at math or science.	4	3	2	1	0
VAR 319	b. People encouraging you to pursue a math or science field.	4	3	2	1	0
VAR 320	c. People encouraging you to pursue a field that is related to math or science (e.g., engineering, business, medicine).	4	3	2	1	0
VAR 321	d. Making high grades in math or science courses.	4	3	2	1	0

		Very frequently	Fairly frequently	Occasionally	Rarely	Never
VAR322 e.	Other experiences which encouraged you to think you are good at math or science	4	3	2	1	0

53. Thinking back about math or science students you know or have heard about: (A math or science student is one who is majoring in the biological sciences, the physical sciences, mathematics, or statistics.)

		Very much	Quite a bit	Some	Not very much	Not at all	I don't know any
VAR 323 a.	To what extent have you admired them?	4	3	2	1	0	0
VAR 324 b.	To what extent have you been impressed by the advantages to them of majoring in math or science?	4	3	2	1	0	0

54. Thinking back about mathematicians and scientists you have known or heard about: (circle one number in each row)

		Very much	Quite a bit	Some	Not very much	Not at all	I haven't known or heard of any
VAR 325 a.	To what extent have you admired them?	4	3	2	1	0	0
VAR 326 b.	To what extent have you been impressed by the advantages to them of being a mathematican or a scientist?	4	3	2	1	0	0

55. How frequently, now or in the past, have you heard that: (circle one number in each row)

		Very often	Fairly often	Occasionally	Rarely	Never
VAR 327	a. It is easy to make a lot of money in a math or science career?	4	3	2	1	0
VAR 328	b. There are many advantages for those who have math or science careers?	4	3	2	1	0
VAR 329	c. It is easy to get a good job if you are a math or science major?	4	3	2	1	0
VAR 330	d. There are many advantages for those who major in math or science?	4	3	2	1	0

56. Imagine yourself as a math or science major: (circle one answer in each row)

		Very much	Quite a bit	Some	Not very much	None at all
VAR 331	a. How much appeal does the idea of being a math or science student have for you?	4	3	2	1	0
VAR 332	b. How much appeal do the advantages that seem to go with majoring in math or science have for you?	4	3	2	1	0

57. Imagine being a future mathematician or scientist:

VAR 333	a. How much appeal does the idea being a mathematician or scientist have for you?	4	3	2	1	0
VAR 334	b. How much appeal do the advantages that seem to go with being a mathematician or scientist have for you?	4	3	2	1	0

58. What was your approximate score on the math section of the SAT?(circle one answer)

VAR 335

Did not take the test.....0

200-299.....1

300-399.....2

400-499.....3

500-599.....4

600-699.....5

700-800.....6

VAR 336 59. How many years of math were you required to take in high school?

_____

(number of years)

60. How much training in the following areas of math did you have in high school? (circle one answer in each row)

		1 year	Part of a year	None
VAR 337	a. Plane Geometry	2	1	0
VAR 338	b. Solid Geometry	2	1	0
VAR 339	c. Trigonometry	2	1	0
VAR 340	d. Algebra	2	1	0
VAR 341	e. 2nd year algebra	2	1	0
VAR 342	f. Pre calculus	2	1	0
VAR 343	g. Calculus	2	1	0
VAR 344	h. Statistics	2	1	0
VAR 345	i. Computer Science	2	1	0
VAR 346	j. Other	2	1	0

These final questions ask you to give us some general information about yourself.

VAR 347 61. How old will you be on December 31 of this year?

_____
(age in years)

VAR 348 62. Were you a resident of North Carolina before coming here to college? (circle one answer)

Yes.....1

No.....2

VAR 349 63. At present, where are you living while you go to school?

In a sorority house.....1

In a college dormitory.....2

In other campus student housing.....3

In a private apartment, home or room.....4

At home with parents or relatives.....5

VAR 350 64. Relative to other families in this country, would you characterize your family as "middle-income" or "middle class"? (circle one answer)

Yes.....1

No.....2

VAR 351 65. What is the highest level of formal education obtained by your parents (or others who raised you)? (circle one in each column)

VAR 352

	Mother	Father
a. Grammar school or less	1	1
b. Some high school	2	2
c. High school graduate	3	3
d. Postsecondary school other than 4-year college (such as techincal school, vocational school, community college)	4	4
e. Some college	5	5
f. College degree	6	6

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		Mother	Father
g.	Some graduate or professional school	7	7
h.	Graduate or professional degree	8	8
i.	Don't know or does not apply	9	9

VAR 353 66. While you were growing up and living at home, how much did your mother (or the female who raised you) work, excluding housework?

Did not work most of the time I lived there.....0

Worked part-time most or all of the time I lived there...1

Worked full-time most or all of the time I lived there...2

VAR 354 67. What is the highest academic degree that you intend to obtain?

None beyond high school.....1

Bachelor's degree (B.A.,B.S., etc.).....2

Master's degree (M.A., M.S., etc.).....3

M.D., D.O., D.D.S., D.V.M. (Doctor of Medicine, Osteopathy, Dental Science, or Veterinary Medicine.....4

Ph.D., Ed.D., LL.B., or J.D. (law).....5

VAR 355 68. Which of the following would you <u>prefer</u> for yourself by the time you have been out of school two years? (Please circle one answer in each group.)

a.	Being single	1
	Being married	2
	Other	3

VAR 356

b.	Having no children	0
	Having one child	1
	Having two children	2
	Having more than two children	3

VAR 357

c.	Having a full-time career	3
	Having a part-time career	2
	Not being employed	1

COMPUTED VARIABLES

VAR358 = VAR33 x VAR34 x .01
[LIKELIHOOD OF CONTINUING TO EXPEND ENERGY/RESOURCES ON MAJOR]
0 (low likelihood) - 100 (high likelihood)

VAR359 = VAR302 + VAR303 + VAR304 + VAR305 + VAR306 + 2(VAR307)
[AVAILABLE ENERGY/RESOURCES FOR PURSUING MAJOR]
7 (low energy/resources) - 30 (high energy/resources)

VAR360 = VAR142 + VAR143 + VAR144 + VAR145
[LEGITIMACY OF THE STANDARDS APPLIED BY THE INSTITUTION]
4 (low legitimacy) - 16 (high legitimacy)

VAR361 = (VAR35 - 3)VAR49 + (VAR36 - 3)VAR50 + (VAR37 - 3)VAR51 +
(VAR38 - 3)VAR52 + (VAR39 - 3)VAR53 + (VAR40 - 3)VAR54 +
(VAR41 - 3)VAR55 + (VAR42 - 3)VAR56 + (VAR43 - 3)VAR57 +
(VAR44 - 3)VAR58 + (VAR45 - 3)VAR59 + (VAR46 - 3)VAR60 +
(VAR47 - 3)VAR61 + (VAR48 - 3)VAR62
[ATTACHMENT TO THE IDENTITY/REWARDS ASSOCIATED WITH THE MAJOR]
-84 (low attachment) - +84 (high attachment)

VAR362 = VAR123 + VAR124 + VAR125 + VAR126
[COSTS TO GET DESIRED RESULTS FROM PROGRAM OF STUDY]
0 (low cost) - 16 (high cost)

VAR363 = Transformed VAR129 where 3=3, 4=2, 5=1, 2=-1, 1=-2
[VALIDITY OF TIME REQUIREMENTS FOR STUDIES]
-2 (low validity) - +3 (high validity)

VAR364 = Transformed VAR130 where 3=3, 4=2, 5=1, 2=-1, 1=-2
[VALIDITY OF WORK REQUIREMENTS FOR STUDIES]
-2 (low validity) - +3 (high validity)

VAR365 = Transformed VAR131 where 3=3, 4=2, 5=1, 2=-1, 1=-2
[VALIDITY OF WORRY REQUIREMENTS FOR STUDIES]
-2 (low validity) - +3 (high validity)

VAR366 = Transformed VAR133 where 5=3, 4=2, 3=1, 2=-1, 1=-2
[VALIDITY OF COST REQUIREMENTS FOR EDUCATION]
-2 (low validity) - +3 (high validity)

VAR367 = VAR363 + VAR364 + VAR365 + (VAR132 - 3) + VAR366
[VALIDITY OF COSTS/REQUIREMENTS OF EDUCATION]
-10 (low validity) - +15 (high validity)

VAR368 = Transformed VAR17 where 5=1, 4=2, 3=3, 2=4, 1=5

VAR369 = Transformed VAR21 where 5=1, 4=2, 3=3, 2=4, 1=5

VAR370 = VAR368 + VAR369
[SELF-ATTRIBUTED ABILITIES AND TALENTS FOR REALIZING IDENTITY/ REWARDS IN PRESENT AND ANTICIPATED FUTURE SITUATION]
2 (low talent) - 10 (high talent)

VAR371 = VAR22 + VAR25 + VAR26
[PERSONAL STANDARDS FOR ACHIEVEMENT]
0 (low standards) - 12 (high standards)

VAR372 = VAR14 + VAR15 + VAR16 + VAR18 + VAR19 + VAR20
[STANDARDS ATTRIBUTED TO THE INSTITUTION]
6 (low standards) = 30 (high standards)

VAR373 = TRANSFORMED VAR307 where 5=1, 4=2, 3=3, 2=4, 1=5

VAR374 = VAR226 + VAR373
[FINANCIAL DIFFICULTIES]
1 (few difficulties) - 9 (a lot of difficulties)

VAR375 = VAR147 + VAR148 + VAR149 + VAR150 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF FRIENDSHIPS]
0 (low importance) - 20 (high importance)

VAR376 = VAR151 + VAR152 + VAR153 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF ROMANTIC RELATIONSHIP(S)]
0 (low importance) - 15 (high importance)

VAR377 = VAR154 + VAR155 + VAR156 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF HOMETOWN ACTIVITIES AND FAMILY]
0 (low importance) - 15 (high importance)

VAR378 = VAR157 + VAR158 + VAR159 + VAR160 (NOTE: For each of the base var, 1=0]
[IMPORTANCE OF SOCIALIZING]
0 (low importance) - 20 (high importance)

VAR379 = VAR161 + VAR162 + VAR163 + VAR164 + VAR165 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF SPORTS ACTIVITIES]
0 (low importance) - 25 (high importance)

VAR380 = VAR166 + VAR167 + VAR168 + VAR169 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF PERFORMING GROUPS AND RELATED ACTIVITIES]
0 (low importance) - 20 (high importance)

VAR381 = VAR170 + VAR171 + VAR172 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF BEING IN A SORORITY]
0 (low importance) - 15 (high importance)

VAR382 = VAR173 + VAR174 + VAR175 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF RELIGIOUS ACTIVITIES]
0 (low importance) - 15 (high importance)

VAR383 = VAR176 + VAR177 + VAR178 + VAR179 + VAR180 + VAR181 + VAR182 + VAR183 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF POLITICAL ACTIVITIES]
0 (low importance) - 40 (high importance)

VAR384 = VAR193 + VAR194 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF TRAVEL]
0 (low importance) - 10 (high importance)

VAR385 = VAR195 + VAR196 + VAR197 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF SPECIAL INTEREST CLUBS/ACTIVITIES]
0 (low importance) - 15 (high importance)

VAR386 = VAR198 + VAR199 + VAR200 + VAR201 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF JOB/VOLUNTEER WORK]
0 (low importance) - 20 (high importance)

VAR387 = VAR184 + VAR185 + VAR186 + VAR187 + VAR188 + VAR189 + VAR190 + VAR191 + VAR192 [NOTE: For each of the base var, 1=0]
[IMPORTANCE OF ACADEMICS]
0 (low importance) - 45 (high importance)

VAR388 = VAR375 + VAR376 + VAR378 + VAR379 + VAR380 + VAR381 + VAR382 + VAR383 + VAR384 + VAR385 + VAR386
[IMPORTANCE OF COMPETING PEER IDENTITIES/REWARDS]
0 (low importance) - 230 (high importance)

VAR389 = VAR202 x 2 + VAR203 x 2 + VAR204 x 2 + VAR207 + VAR208 + VAR209 + VAR210 + VAR211 + VAR212 . . . . + VAR223
[EXTRAORDINARY DEMANDS FROM PEER RELATIONSHIPS/IDENTITIES]
0 (low demands) - 23 (high demands)

VAR390 = VAR205 x 2 + VAR20[illegible]
[EXTRAORDINARY DEMANDS FROM HOME/FAMILY]
0 (low demand) - 3 (high demands)

VAR391 = VAR224 + VAR225
[ILLNESS]
0 (low) = 8 (high)

VAR392 = VAR227 + VAR228 . . . . + VAR286
[DIRECT HELP FROM OTHERS]
0 (low) - 60 (high)

VAR393 = VAR287 + VAR288 . . . . + VAR301
[INDIRECT SUPPORT/ENERGY FROM OTHERS]
0 (low) = 15 (high)

VAR394 = VAR63 where 5 = +2, 4=+1, 3=0, 2=-1, 1=-2, 0=0
[WORTH GIRLFRIENDS ASSOCIATE WITH ONE'S GOALS]
2 (low worth) - +2 (high worth)

VAR395 through 408 = VAR64 through 77, respectively where 5 =+2, 4=+1, 3=0, 2=-1, 1=-2, 0=0
[WORTH VARIOUS GROUPS ASSOCIATE WITH ONE'S GOALS]

```
VAR409 = (VAR394)(VAR78) + (VAR395)(VAR79) + (VAR396)(VAR80) +
         (VAR397)(VAR81) + (VAR398)(VAR82) + (VAR399)(VAR83) +
         (VAR400)(VAR84) + (VAR401)(VAR85) + (VAR402)(VAR86) +
         (VAR403)(VAR87) + (VAR404)(VAR88) + (VAR405)(VAR89) +
         (VAR406)(VAR90)
         [WORTH PEERS ATTRIBUTE  TO ONE'S GOALS]
         -104(low) - +104(high)

VAR410 = (VAR407)(VAR91) + (VAR408)(VAR92)
         [WORTH PARENTS ATTACH TO ONE'S GOALS]
         -16 (low worth) - +16 (high worth)

VAR411 = VAR93 where 5=1 everything else = 0

VAR412  through 425 = VAR94 through 107 where 5=1, everything else = 0

VAR426 = (VAR411)(VAR78) + (VAR412)(VAR79) + (VAR413)(VAR80) +
         (VAR414)(VAR81) + (VAR415)(VAR82) + (VAR416)(VAR83) +
         (VAR417)(VAR84) + (VAR418)(VAR85) + (VAR419)(VAR86) +
         (VAR420)(VAR87) + (VAR421)(VAR88) + (VAR422)(VAR89) +
         (VAR423)(VAR90)
         [DEGREE TO WHICH GROUP ATTRIBUTES SUCCESS TO PERSON'S ABILITY]
         0 (low) = 52 (high person's ability)

VAR427 = (VAR424)(VAR91) + (VAR425)(VAR92)
         [DEGREE TO WHICH PARENTS ATTRIBUTE SUCCESS TO PERSON'S ABILITY]
         0 (low) - 8 (high)

VAR428 = VAR29 where 5=+3, 4=+2, 3=+1, 0=0, 2=-1, 1=-2
         [RECENT FEEDBACK-GRADES]
         -2 (low) - +3 (high)

VAR429 = VAR30 where 5=+3, 4=+2, 3=+1, 0=0, 2=-1, 1=-2
         [RECENT FEEDBACK - OTHER EXPERIENCE]
         -2 (low) - +3 (high)

VAR430 = VAR31 where 5=+3, 4=+2, 3=+1, 0=0, 2=-1, 1=-2
         [RECENT FEEDBACK - JOBS]
         -2 (low) - +3 (high)

VAR431 = VAR32 where 5=+3, 4=+2, 3=+1, 0=0, 2=-1, 1=-2
         [RECENT FEEDBACK - OTHER]
         -2 (low) - +3 (high)

VAR432 = VAR428 + VAR429 + VAR430 + VAR431
         [RECENT FEEDBACK]
         -8 (low) - +12 (high)

VAR433 = (VAR108)(VAR78) + (VAR109)(VAR79) + . . . + (VAR120)(VAR90)
         [PEER GROUP ASSESSMENT OF ONE'S ABILITIES]
         0 (low assessment) - +156 (high assessment)

VAR434 = (VAR121)(VAR91) + (VAR122)(VAR92)
         [PARENTS ASSESSMENT OF ONE'S ABILITIES]
         0 (low assessment) - 40 (high assessment)
```

VAR435 = VAR23 + VAR24 + VAR27 + VAR28
[GROUP STANDARDS FOR ACHIEVEMENT]
0 (low standards) - 16 (high standards)

VAR436 = VAR134 where 6=0, 5=3, 4=2, 3=1, 2=-1, 1=-2

VAR437 through VAR443 = VAR135 through 141, respectively where
6=0, 5=3, 4=2, 3=1, 2=-1, 1=-2

VAR444 = VAR436 + VAR437 + VAR438 + VAR439 + VAR440 + VAR441
[GROUP NORMS FOR TIME INVESTMENT]
-12 (low)- +18 (high norms)

VAR445 = VAR442 + VAR443
[PARENTS NORMS FOR TIME INVESTMENT]
0 (low) - +10 (high)

VAR446 = VAR93 where 3=1, everything else = 0

VAR447 through VAR460 = VAR94 through VAR107, where 3=1, everything else = 0

VAR461 = (VAR446)(VAR78) + (VAR447)(VAR79) + (VAR448)(VAR80) +
(VAR449)(VAR81) + (VAR450)(VAR82) + (VAR451)(VAR83) +
(VAR452)(VAR84) + (VAR453)(VAR85) + (VAR454)(VAR86) +
(VAR455)(VAR87) + (VAR456)(VAR88) + (VAR457)(VAR89) +
(VAR458)(VAR90)
[DEGREE TO WHICH GROUP ATTRIBUTES PROBLEMS TO SYSTEM]
0 (low) - 52 (high)

VAR462 = VAR308 where 9=8, everything else the same

VAR463 = VAR309 where 9=8, everything else the same

VAR464 = VAR310 where 9=8, everything else the same

VAR465 = VAR311 where 9=0, everything else the same

VAR466 = VAR312 where 9=8, everything else the same

VAR467 = VAR313 where 9=0, everything else the same

VAR468 = 6(Continuer) if VAR465 = 8
= 5(Post-Frosh Dropout) if VAR465 = 7
= 4(Frosh Dropout) if $3 < VAR465 < 7$
= 3(High School Dropout) if $1 < VAR465 < 4$
= 2(Early Dropout) if $VAR465 \leq 1$, and VAR462 $\neq 0$ and VAR463 $\neq 0$
= 1(No Action Dropout) if $VAR465 \leq 1$, VAR463 = 0 and VAR462 $\neq 0$
= 0 if VAR462 = 0
= 9(missing data)
[LIKELIHOOD OF M/S IDENTITY]

VAR469 = 0 (NEVER) if VAR467 = 0
= 1 (EARLY DROPOUT) if VAR467 = 1
= 2 (HIGH SCHOOL DROPOUT) if 1 < VAR467 < 4
= 3 (FROSH DROPOUT) if 3 < VAR467 < 7
= 4 (POST-FROSH) if VAR467 = 7
= 5 (CONTINUER) if VAR467 = 8
= 9 (MISSING DATA) if 467 = 9
[LIKELIHOOD OF M/S RELATED IDENTITY]

VAR470 = 0 (NEVER) if VAR468 = 0
= 1 (NO ACTION DROPOUT) if VAR468 = 1
= 2 (EARLY DROPOUT) if VAR468 = 2 and 469 ≤ 1
= 3 (HIGH SCHOOL DROPOUT) if VAR468 = 3 and VAR469 ≤ 2 or if 468 = 2 and 469 = 2
= 4 (FRESHMAN DROPOUT) if 1 < VAR468 < 5 and VAR469 = 3 or if VAR468 = 4 and VAR469 ≤ 3
= 5 (POST FROSH DROPOUT) if 1 < VAR468 < 6 and VAR469 = 4 or if VAR468 = 5 and VAR469 ≤ 4
= 6 (APPLIED CONTINUER) if 1 < VAR468 < 6 and VAR469 = 5
= 7 (PURE CONTINUER) if VAR468 = 6
= 9 (MISSING DATA) all others
[LIKELIHOOD OF M/S IDENTITY (INCLUDING M/S RELATED IDENTITIES)]

VAR471 = VAR314 + VAR315 + VAR316 + VAR317
[M/S ABILITIES ATTRIBUTED TO SELF]
4 (low) - +20 (high)

VAR472 = VAR318 + VAR319 + VAR320 + VAR321 + VAR322
[POSITIVE FEEDBACK REGARDING M/S ABILITIES]
0 (low) - +20 (high)

VAR473 = VAR323 + VAR325
[ADMIRATION FOR M/S ROLE MODEL]
0 (low) - +8 (high)

VAR474 = VAR324 + VAR326
[REWARDS ASSOCIATED WITH ROLE MODELS]
0 (low) - +8 (high)

VAR475 = VAR327 + VAR328 + VAR329 + VAR330
[ADVICE THAT M/S HAS REWARDS ASSOCIATED]
0 (little) - +16 (great deal)

VAR476 = VAR331 + VAR333
[APPEAL OF M/S IDENTITY]
0 (low) - +8 (high)

VAR477 = VAR332 + VAR334
[APPEAL OF M/S ASSOCIATED REWARDS]
0 (low) - +8 (high)

VAR478 = VAR335 where 0=9, everything else the same
[SAT SCORES]

VAR479 = Transformed VAR11 where 1 through 11 = 01; 25 through 31 = 02
50 and 53 = 03; 54 through 64 = 04; 65 through 72 = 05;
74 and 75 = 05; 77 = 05; 19 through 24 = 06; 32 through 38 = 07;
43 = 08; 51 and 52 = 09; 73 = 10; 76 =01; 12 through 18 = 12;
39 through 42 = 13; 44 through 49 = 13; 78 = 14; 99 = 99
[TYPE OF MAJOR -
01 = ARTS AND HUMANITIES
02 = EDUCATION
03 = PROFESSIONAL (OTHER THAN PHARMACY, PREDENT, PREMED, PREVET);
04 = SOCIAL SCIENCE
05 = OTHER FIELDS (OTHER THAN NURSING, THERAPY, AND UNDECIDED)
06 = BUSINESS
07 = ENGINEERING
08 = COMPUTER SCIENCE
09 = PHARMACY, PREDENT, PREMED, PREVET
10 = NURSING
11 = THERAPY
12 = BIOLOGICAL SCIENCE
13 = PHYSICAL SCIENCE
14 = UNDECIDED]

VAR480 = TRANSFORMED VAR479 where: 01, 02, 03, 04, and 05 = 1;
06, 07, 08, 09, 10, and 11 = 2; 12 and 13 = 3; 14 and 99 = 9
[M/S MAJORS
01 = NON-RELATED MAJORS; 02 = RELATED MAJORS; 03 = M/S MAJORS
09 = NO DATA]

VAR481 = Transformed VAR147: 5=1, 4=1 everything else = 0

VAR482 through VAR535 = Transformed VAR148 through VAR201:
5 = 1, 4 = 1, everything else = 0

VAR537 = 1 if VAR481, 482, 483, or 484 = 1
(i.e., if one or more = 1, then 537 = 1)
[FRIENDSHIP ONE OF MORE/MOST IMPORTANT THINGS]
0 (no) - 1 (yes)

VAR538 = 1 if VAR485, 486, or 487 = 1
[ROMANTIC RELATIONSHIP IMPORTANT]
0 (no) - 1 (yes)

VAR539 = 1 if VAR488, 489 or 490 = 1
[HOMETOWN ACTIVITIES AND FAMILY IMPORTANT]
0 (no) - 1 (yes)

VAR540 = 1 if VAR491, 492, 493, or 494 = 1
[SOCIALIZING IMPORTANT]
0 (no) - 1 (yes)

VAR541 = 1 if VAR495, 496, 497, 498, or 499 = 1
[SPORTS ACTIVITIES IMPORTANT]
0 (no) - 1 (yes)

VAR542 = 1 if VAR500, 501, 502, or 503 = 1
[PERFORMING GROUP IMPORTANT]
0 (no) - 1 (yes)

VAR543 = 1 if VAR504, 505, or 506 = 1
[SORORITY IMPORTANT]
0 (no) - 1 (yes)

VAR544 = 1 if VAR507, 508, or 509 = 1
[RELIGIOUS ACTIVITY IMPORTANT]
0 (no) - 1 (yes)

VAR545 = 1 if VAR510, 511, 512, 513, 514, 515, 516, or 517 = 1
[POLITICAL ACTIVITY IMPORTANT]
0 (no) - 1 (yes)

VAR546 = 1 if VAR518, 519, 520, 521, 522, 523, 524, 525, or 526 = 1
[ACADEMICS IMPORTANT]
0 (no) - 1 (yes)

VAR547 = 1 if 527 or 528 = 1
[TRAVEL IMPORTANT]
0 (no) - 1 (yes)

VAR548 = 1 if VAR529, 530, or 531 = 1
[SPECIAL CLUBS IMPORTANT]
0 (no) - 1 (yes)

VAR549 = 1 if VAR532, 533, 534, or 535 = 1
[JOB/VOLUNTEER WORK IMPORTANT]
0 (no) - 1 (yes)

VAR550 = VAR537 + VAR538 + VAR539 + VAR540 + VAR541 + VAR542 + VAR543 +
VAR544 + VAR545 + VAR547 + VAR548 + VAR549
[EXTRA-CURRICULAR ACTIVITIES WHICH ARE VERY IMPORTANT]
0 (nothing important) - 12 (everything important)

VAR551 = Transformed VAR02 (same transformation as VAR479)
[TYPE OF FIRST MAJOR]
See categories for VAR479 - 14 types

VAR552 = Transformed VAR551 where 01, 02, 03, 04, and 05 = 1;
06, 07, 08, 09, 10, and 11 = 2; 12 and 13 = 3; 14 and 99 = 0
[M/S FIRST MAJOR
01 = NON-RELATED MAJORS; 02 = RELATED MAJORS; 03 = M/S MAJORS;
00 = NO DATA]

VAR553 = Transformed VAR359 = VAR359 - 2 (VAR307)
[AVAILABLE ENERGY FOR PURSUING STUDIES]
5 (low energy/resources) - 25 (high energy/resources)

VAR554 = Transformed VAR78 where 0=9
[IMPORTANCE OF GIRLFRIENDS' OPINION]
5 (high importance) - 1 (low importance)

VAR555 - 568 = Transformed VAR79 - VAR92 where 0=9
[IMPORTANCE OF _____ OPINIONS]
5 (high importance) - 1 (low importance)

VAR569 = Transformed VAR389 = VAR389 - VAR218 - VAR219 - VAR220 - VAR221
[EXTRAORDINARY DEMANDS FROM NON-CAREER PEER RELATIONSHIPS/ IDENTITIES]
0 (low demands) - 16 (high demands)

VAR570 = Reconstituted VAR392 = VAR227 + VAR228 + . . . + VAR271
[DIRECT HELP FROM OTHERS]
0 (low) - 45 (high)

VAR571 = Reconstituted VAR393 = VAR272 + VAR273 + . . . + VAR301
[INDIRECT HELP FROM OTHERS]
0 (low) - 30 (high)

VAR572 = 0 if VAR11 = VAR02 or 1 if VAR11 ≠ VAR02
[CHANGE OF MAJOR]
0 (no change) - 1 (a change)

APPENDIX III-1: SUMMARIZED CAREER IDENTITY HISTORIES

Karla (NCU)

Karla's earliest career interests concerned animals. From the age of 4 or 5 until she was 9, she wanted to be a zookeeper. Her interest in animals was a continuing one, influenced by her home situation (her mother raised and showed dogs, and her family always had many pets), and her interest in animals remained even after she began, at age 9, to have annually changing career objectives.

From age 9, her career history can be summarized by the following outline:

Age	Career Interest
9	Business executive
10	Jet pilot
11	One who sails around the world and writes about it
12	General
13	Psychiatrist
14	Doctor
14	Lawyer
15	Veterinarian
16	Roaming biologist
17	Journalist/Film critic
17	Astronomer
17	Artist
17/18	Marine scientist

With respect to this career history, certain useful generalizations can be made about Karla's personal and social identities.

Karla seems to be a very perceptively self-conscious woman. She is quite aware of her talents, interests, and desires.

One of Karla's very strong concerns about a potential career is that it fit her talents. She has no intention of pursuing a career if she feels her talents or abilities handicap her. She maintains that she has no talent in sales or teaching. Her perception that she has no talent in sales leads her to abandon her idea of being a business executive. It also helps her decide against majoring in commercial art. Her reluctance to be a teacher helps her decide against astronomy, because many of the jobs are teaching jobs.

Karla sees her talents as scientific ability, verbal ability (writing/speaking) and artistic ability. Her interests in writing about her sailing adventures, being a psychiatrist, being a lawyer, and being a journalist or film critic all spring from her recognition of her verbal ability. Her artistic ability of course leads her to consider being an artist. But it is her scientific talent which seems to predominate in her later career decisions. She considers being a doctor, a veterinarian, a roaming biologist, an astronomer, and finally a marine scientist.

As well as satisfying her perceived talents, a career would also have to fit her personal interests and desires. Karla does not want to be tied down to one location at least for the next 10 years or so. This concern leads her to reject being a doctor or a veterinarian because they don't offer her sufficient promise of travel.

Karla also values the glamour of an occupation--she prefers occupations which are non-traditional and exciting. This concern influences most of her career decisions. The lack of glamour attached to a particular occupation never seems to drive her away from it, but the occupations which seem

exciting to her attract her far more often.

Another of Karla's important concerns is that she be in a field with a good employment outlook. For this reason she rejects being a general, a film critic, an astronomer, and an artist.

Various additional personal preferences also play a role in her career decisions. She decides against being a general because she realizes that she despises fighting. She decides against being a psychiatrist because she thinks she will get tired of listening to other people's problems. One cause of her decision against a medical career is that sick people make her uncomfortable. Also, she dislikes the status-conscious nature of many of the pre-med sorts she has encountered. And she decides against journalism because it simply ceases to be interesting to her.

Betty (BU)

Betty desires to be a physical therapist and to have a degree in biology as well. Throughout the data she never abandons this aspiration. In her Career History Interview she says that she has wanted to be a physical therapist since she was in the seventh grade during which time she frequently accompanied the child of a mother's friend to a physical therapy clinic where the child received therapy for a leg disorder. Betty indicates that she was impressed with the progress the child made and thought that she would like to be responsible for similar accomplishments. Her mother supported this aspiration, as did her boyfriend's mother who was an invalid. In grade 9, Betty volunteered to work in a nursing home and through the CETA Program worked for salary in a local hospital, helping out in the physical therapy department. During high school she and several of her friends also joined the school club HOSA (Health Occupation Students of America). She says that her friends thought she would make a good physical therapist and that they regarded a physical therapist to be "the same as a doctor." It was during her high school summers while she worked in the hospital that Betty met Susan, a physical therapist. She admired Susan because she was a certified therapist and she had a degree in biology as well. This degree certified Susan to teach at a local college, and Betty indicates that she desires to have the same professional preparation as Susan.

Betty indicates her desire to obtain status as a physical therapist. She regarded the profession, as did her friends, as a highly respected field of employment and one that promised financial rewards, especially if she had a degree in biology above and beyond her certification in physical therapy. Such a degree would enable her to teach as well as practice physical therapy like Susan.

Aggie (NCU)

Aggie appears to have been aware of her basic interests and abilities from a fairly early age. She expressed and demonstrated a consistent interest in natural science since at least the seventh grade. From early on, Aggie has been very interested in babies. Rather soon Aggie also became aware of an aversion for business. Aggie's abilities beyond a very good general scholastic ability appear to be strong verbal skills and a good memory that she found to be a help in biology. In contrast to her father, Aggie says she is not a practical person or mechanically inclined.

Career aspirations up to and through the college years, with the exception of very brief passing interests in being a model and an airline stewardess, are quite consistent with the field of health careers. In the first grade Aggie wanted to be a doctor. At about the seventh or eighth grade she decided that eight years of college was too much. When she was in the ninth grade Aggie met her boyfriend's mother, a nurse, who informed her about that job. Nursing, however, wasn't considered seriously as a career until Aggie was in college.

It seems that an extraordinary occurrence let to Aggie's initial lasting specific career choice beyond that of doctor. While riding in a bikeathon Aggie was struck by a car and sustained a hip injury. During her recovery she became acquainted with physical therapists. This didn't lead to an immediate decision to become a physical therapist but had its effect later on. In the eleventh and twelfth grades, due to participation in the Medical Explorers, Aggie was exposed to hospital work. Speech therapy was considered briefly because it had potential for dealing with handicapped children. Physical therapy, however, was the clear-cut choice that surfaced.

It is not clear how the idea of becoming a doctor first originated with Aggie. The first identifiable role model is a female teacher of biology in the seventh grade. No specific career choice emerged from this relationship but an interaction between having a natural liking and aptitude for biology plus a teacher she calls a good friend seems to have established a general positive attitude toward sciences. In the ninth grade Aggie met her boyfriend's mother, the nurse. At about this time the accident occurred and as a result Aggie became acquainted with an orthopedic surgeon who greatly impressed her. Kenny's mother and the surgeon didn't influence a specific career decision at that time but did appear to lead to the development of an interest in health careers, an application of biology. Volunteer work with the Medical Explorers in the eleventh and twelfth grade led to meeting the head of a physical therapy clinic who would talk with Aggie for long periods of time about physical therapy. Subsequently, in her senior year, Aggie chose to major in physical therapy.

Dot (BU)

When asked for her earliest career ambition, Dot responded that in 8th grade she had worked with computer cards and that she has been intrigued with data processing ever since. Since 8th grade Dot has had limited experience with computer terminals, mostly in retail stores, presumably selling home computer systems. It seems that Dot has played with the demonstration models from time to time.

When she goes to college, Dot declares a major in Business Administration with a concentration in Data Processing. However, in the years that intervened between her 8th grade experience with the computer and her decision about a major, Dot considered several other career identities.

Between 10th and 12th grades, Dot considered nursing as a possible career. Her mother had been a registered nurse before she died (when Dot was in the 10th grade). Dot had accompanied her mother to nursing homes, thereby obtaining some first-hand information about the roles and responsibilities of nursing. She also read several books on it. But when she started college, Dot decided that nursing was not for her because she didn't have the strength to see people suffer.

The idea of becoming a social worker originated also in the 10th or 11th grade. Dot seems to have admired a social worker who assisted her family on the death of her mother. Since that time she has not taken any steps to pursue social work as a career. However, despite the current business major, Dot says she may eventually study sociology and pursue her interest in working with people.

Although Dot feels confident of her skills in sewing and cooking, she rejects a career in Home Economics. She says about Home Economics, "I

wanna be something that's a challenge to get there. . . you don't really want to get in a field that you know you can do, you won't learn nothing."

Teaching and banking (i.e. being a bank teller) are rejected because they are too low paying. Dot also discourages her sister from pursuing a teaching career for the same reason.

Consideration of the financial rewards associated with various careers is a theme which runs throughout Dot's Career Identity History. She is sure she wants a good-paying job. Thus, when one of her first-semester college professors tells her "there's no money anywhere else except with computers," Dot is convinced to stay in data processing.

Bonnie (NCU)

As a little girl (under 10 years old), Bonnie wanted to become a nurse and a stewardess. In both choices she says she was motivated by television. According to her, both ideas were dropped in junior high school. She says, "Just dropped it, [I] didn't think it was right for me".

In sixth grade, Bonnie entered the school band, and her interest in music started. During her years in junior high, she took music lessons in voice, did tours with the school and took lessons in choreography. All these activities reinforced her interest in music. She went on to join the high school band and was chosen to attend a special school for a summer program in voice. In her opinion, Bonnie had very good teachers in voice to model herself after. Also in her opinion, both the band director and choir director were good. Also, Bonnie says she had always wanted to work with people, especially handicapped people.

During her junior year in high school, Bonnie becomes interested in music therapy. Two things happened to solidify her interest in this field. First, she meets a girl from Georgia who is majoring in music therapy, and second, she writes a research paper on music therapy for her senior-year English class. Then, when Bonnie enters college, she declares a major in music with an orientation towards therapy.

While in her freshman year of high school, Bonnie meets and falls in love with a senior, Bill. He becomes her first steady boyfriend. Bonnie and Bill maintain their relationship after he goes away to college. Two years later, Bonnie joins Bill at the same university. Bonnie says that she has always known that she and Bill will get married someday. She is

not sure how soon the wedding will be--definitely not before she graduates from college--but she is sure it will happen. She is looking forward to marriage with Bill, to supporting him in his planned political career and to having a family, but she is also looking forward to her own career and says she will probably not get married until she has completed all the schooling she needs to obtain a job in her chosen field.

Lydia (BU)

Since the age of ten, Lydia has wanted to be a gymnast. She got this idea from looking at a Life Magazine article on gymnastics and pursued it by watching television shows and reading sports magazines about the field. Lydia explains that she was well suited for this field because she was fearless: not afraid of flipping in the air; not afraid of falling out of trees. Throughout junior and senior high school, Lydia pursued her interest in gymnastics by taking whatever courses were available in her schools and working after school at a local community center gym. She seems to have received considerable encouragement, including good grades, from the physical education instructors at these schools.

During this time, Lydia also considered other careers, including dancer (which came and went as part of gymnastics), veterinarian, artist, and probation officer. She says, "I wanted to be a vet because I would like to save animals....I was serious about it [even though I knew it was] so many years of school like a regular doctor...." After considering this field for awhile, however, Lydia decided that she probably would faint if she saw an animal that was hurt.

Of art, Lydia says she was good with her hands and enjoyed taking art classes in high school. In addition, she felt that she had a very strong interest in working with people and so became president of the criminal justice club in high school. She anticipated that a career in criminal justice would allow her to help prisoners, a group she felt were generally neglected. As was the case with art, she started taking courses in criminal justice. Soon, however, her interest in art and criminal justice waned and "I went right back to recreation...and I've stayed closer to recreation....

I knew firmly that I wanted to teach gymnastics and I guess I've always really been working toward that."